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AMERICAN MEDICO-SURGICAL BULLETIN

A JOURNAL OF PRACTICE
AND SCIENCE

ISSUED ON THE 10th AND 25th OF THE MONTH

EDITOR

HORATIO C. WOOD, M.D., LL.D.

MANAGING EDITOR

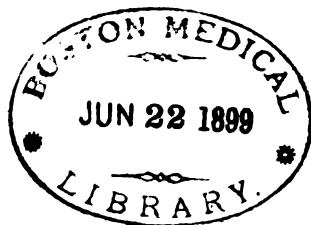
ROBERT G. ECCLES, M.D.

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American Medico-Surgical Bulletin

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No. 1

The BULLETIN'S work in the past has spoken for itself. We need not comment upon it, further than to say that its appreciation by the medical men of America has been such as to stimulate us to extended effort toward meriting their continued and even increased approbation in the current year.

While not neglecting the conscientious compilation of digests, which have been such a favorite and characteristic feature of the BULLETIN hitherto, we have taken measures to secure to this journal henceforth an equally distinctive character in the *direct and immediate* discussion of matters of practical therapy. The BULLETIN will hereafter be, not only a reproducer, but an original worker in this most important field of the medical domain. We hope soon to see it occupy a position of recognized authority as a favorite mouthpiece of well-equipped minds in therapeutic research as well as in clinical observation.

To accomplish this purpose we have obtained the co-operation of the distinguished scholar and therapist, Professor Horatio C. Wood, M.D., LL.D., of the University of Pennsylvania, who will henceforth unite with Dr. R. G. Eccles in the effort to make the AMERICAN MEDICO-SURGICAL BULLETIN a journal that cannot well be spared by any medical practitioner who wishes to remain among the best-informed of his profession.

THE PUBLISHERS.

EDITORIAL

PROFESSOR WOOD AS EDITOR

REFERRING to the publishers' statement, I wish to say that my hearty co-operation will be given to the purposes set forth.

I would earnestly solicit, from my friends and colleagues throughout the profession, such support as they may find leisure to accord me in the work I have undertaken.

HORATIO C. WOOD.

OUR SECOND DECADE

WITH this number the BULLETIN enters its second decade. For ten years it has stood as a representative of fearless, independent medical journalism. It has always been a leader in the fray when any important reform in medical affairs has required a champion and a friend. It has shrunk from no duty, however unpleasant, and has feared no enemy of the right, however powerful. In the late crusade against hospital and dispensary abuse it was among the first to take the part of the injured general practitioner. In the war against the aggressive legislation quackery has been inspiring, it raised the warning note of danger. Its efforts have materially assisted in damming the tide of hysterical sensationalism known as anti-

vivisection. It has supplied its readers with the latest discoveries in medical science and has given them all the medical news of general interest as fast as it was made available. Its selected articles have been the very best products of the world's medical leaders. Its abstracts have covered the whole field of medical progress, and its quotations have been from the most apt of the editorials of its contemporaries. On this, the threshold of a new decade, we start forth determined to do as much or more for our readers.

The appreciation with which the BULLETIN has been received and the many words of praise that have poured in upon us from all directions during the past year have proved highly gratifying. Probably the most pronounced flattery we have received has come from those who intended neither to praise nor commend us. We refer to editors of medical journals who have taken from our columns article after article without giving us credit. A correspondent writing to us on Dec. 26, said: "Have you examined the St. Louis —? A more flagrant instance of plagiarism has never come to my notice. About half of the last number is reproduced bodily from the pages of the A. M.-S. B. without any credit. In some instances the collaborator's initial is appended, making it appear that it is their collaborator." We had been aware for a long time that this journal was pilfering, but forbore mentioning it. A few months ago a New England medical editor took part of one of our editorials, grafted upon it a few comments upon an item of interest in his region, and gave it first place in his editorial columns. Our news-columns have suffered more from such marauders than any other part of our journal. A large number of our contemporaries have deemed that part of our work a free pasture. Eight distinct illustrations of this now lie before us. One of these is from

a medical journal published in New York City, and the rest are mostly from the West.

There can certainly be no doubt of the sincerity of the appreciation which this cribbing manifests. If the pilferers did not think that the contents of the BULLETIN were of prime quality they would take no pleasure in having their readers believe that the articles they steal from it were original with themselves.

The BULLETIN being primarily a medical review, we necessarily depend upon the good things in current medical literature to fulfill our function. We aim always at getting the best, and we intend to be fair on all occasions to every journal from which we quote and expect the same courtesy in return from those who quote from us.

As the BULLETIN will hereafter devote more space to therapeutics its practical utility to the average practitioner will be materially enhanced. The final aim and object of all medical science being to cure the patient, our readers will necessarily welcome this departure and watch with growing interest our reports on the newer *materia medica*.

EXTIRPATION OF THE STOMACH

RECENT advances in our knowledge of the physiology of digestion have almost completely revolutionized our ideas concerning the importance of the stomach. Steadily the belief has been gaining ground that the various functions held to be completely and exclusively performed by that organ are really in some instances more perfectly accomplished, or in others only accomplished lower down in the intestinal canal. A number of physiologists have reported experiments in which the stomach has been excised from dogs, and they have survived the operation, for in one instance as long as five years, with little or

no apparent damage. Surgeons have seen in this the possibility of extending the lives of patients having gastric cancer. During the last four years several attempts have been made, with more or less success, to remove the human stomach and thus get rid of the ravages of this terrible disease. Until lately no one had attempted a complete removal of the stomach in such cases.

The *Medical Record* of December 25, 1897, reports a case in which no part of the stomach was left, and yet the patient is doing well and gaining in weight. Dr. Carl Schlatter, of Zurich, Switzerland, performed the operation three months ago, and the patient has since been seen by Dr. E. C. Wendt, of New York. Dr. Wendt says that "save for some degree of emaciation, a noticeably dry skin, and her abdominal cicatrix, the woman at present offers no apparent departure from ordinary average health." In the presence of such a case as this, one is inclined to ask whether the stomach is really of any use. The lay press has already put a question of this kind and published several very sensational reports concerning this case. A number of New York surgeons were interviewed about the matter, and as is customary in such instances, they were made to say what the reporters thought they said.

While Dr. Schlatter deserves great credit for venturing a little farther in his case than any one had done before, the fact that he did so does not materially alter the views of physiologists about the functions of the stomach. The present notions of the real value of that organ, by all who are in touch with advanced physiology, are only confirmed by this new piece of evidence. The time for astonishment at a case of this kind has long since passed. We have known for many years that the trypsin of the pancreatic juice could produce peptone out of beef-steak or eggs just as the pepsin and hydro-

chloric acid of the stomach did. We have also known that the amylase of the pancreatic juice could do the work of the ptyalin of the saliva more effectually than the latter is able to do it during the short interval of alkalinity and neutrality of the food in the stomach. We have seen lives saved by nutrient enemata. The evidence all went to show that in secretion and excretion the body works in a way to make danger from the failure of function in an organ the least possible. Vicarious action of a more or less perfect character is always possible. We have discovered that absorption by the stomach, when compared with that of the intestines, is slight. Water is scarcely ever absorbed by the former, but must pass down into the latter before it can slack our thirst. A simple step in induction would have led to the conclusion that the experiment was worth trying to see if an animal could not live without its stomach. That step was probably first taken by Czerny in 1878, when he removed wholly the stomach of a dog and found that it was able to live indefinitely without it. To exist without that organ, however, must necessarily lessen the chances of survival except under very favorable circumstances.

The whole alimentary canal constitutes a very efficient trap to protect the body against the attacks of pathogenic bacteria. Disease-germs are able to pass the barriers in safety to themselves frequently because our protective machinery has not reached perfection. We are, however, guarded to a very valuable amount by the means we possess. The saliva is normally alkaline. Bacteria that require an acid or neutral medium when swallowed in well-masticated food have to endure for more than half an hour an exceedingly unfavorable environment. They are at least weakened by such treatment. Their structure is liable to attack from the ptyalin if they contain any

starch, and the alkali must be something of a poison to them. As soon as the gastric juice is secreted their protoplasmic part is endangered by the pepsin, and if the normal habitat is alkaline they are forced to endure a bath that is destructively acid. Passing into the duodenum another change in their environment occurs. They are forced to endure an alkaline bath again, and their structure is once more subjected to the effect of the starch- and cellulose-converting agents of the pancreatic and intestinal secretions. The whole operation is very much like making fish live successively in salt and fresh water without regard to the kind, besides adding to the water something that would seek to dissolve them.

Each step in digestion, when properly performed, tends toward the destruction of certain kinds of germs, and thus toward the protection of the body. Of course some kinds are able to run this gauntlet and get into the body in spite of it. Dried spores are not likely to be so seriously affected by it as the active germs would be. Ablation of the stomach takes away all protection from alkali-loving bacteria. It leaves the patient without any storehouse for his reserve supply of food, and without an automatic regulator of the quantity and fineness of division of that which reaches the intestines. It leaves him without those nerves of sensation that tell him when food is needed and in a rough way how much is needed. Dr. Schlatter's patient declares that she never feels hungry. Without the stomach there would be no means of guarding the intestines from the extreme degrees of heat and cold that it can endure, but which the intestines would suffer from. It is not yet certain whether the peptone produced by pepsin and hydrochloric acid is quite the same as that produced by trypsin and alkaline carbonate. It may be possible that in the long run the effect of the withdrawal of

one of these may seriously interfere with the proper nutrition of the body. That nature seeks to restore the missing stomach for the purpose at least of having a food-reservoir is apparent from the case of Prof. Schuchhardt, of Stettin, referred to by Dr. Wendt. The Professor says of his case: "The patient, whose stomach was completely excised in 1895, has just died after an interval of two and a half years of apparent perfect health. The autopsy showed that from the cardiac stump a new stomachal pouch, with a capacity of over one pint, had been formed. It was in consequence of the new formation of this post-operative stomach that the patient, who at first was unable to take more than very small quantities of nourishment, was finally able to partake of ordinary meals in the ordinary way." It is evident from these facts that many medical men who still hang on to the old notions about dyspepsia and its treatment, must change their views or be left far behind in the march of progress. What the stomach needs more than anything else when it stops work is a fresh supply of pure water. This will stir up the gastric secretion and at the same time aid the stomach in emptying itself into the duodenum where the work of digestion can be completed.

In all forms of chronic gastric affections it is found that the stomach empties itself slowly and secretes its gastric juice less quickly than in health. It is therefore good philosophy and good practice in non-acute affections of this organ to give water whenever digestion is at a standstill or delayed. It causes a fresh secretion of pepsin and hydrochloric acid, renews the flagging movements, and by diluting the mass permits it the easier to pass the pyloric opening. In cases of gastric catarrh a single mouthful of water some time before eating will produce much better results than a dose of pepsin or a drug.

AMONG THE EDITORS

THE LAPORTE CASE

The trial and conviction of a Paris physician on a charge of homicide has roused the indignation of both the medical and lay press of Europe, and particularly, of Paris, to a most commendable degree. On September 11 last, a midwife who had charge of a confinement and had met with difficult complications advised the husband to send for a physician. He concluded to wait until evening in order to take advantage of the free night medical service. Dr. Laporte, a member of the night-service staff, was called, and, after ineffectual attempts to deliver the woman of a large child, the forceps having been applied three times, he told the husband that craniotomy would be necessary to save the mother's life. This being agreed upon, he asked for some sharp instrument, as he had nothing suitable with him. A tool-chest was produced, and he selected a curved needle used for sewing mattresses, with which he punctured the head and soon after applied the forceps for the fourth time, with the result that the delivery was accomplished. He then saw that the patient was comfortable, and, leaving the necessary directions, went home.

Three days later the woman died in a hospital. The physician who made the autopsy gave as the cause of death peritonitis following a perforation of the bladder. Laporte was arrested, tried, and, partly on the testimony of the physician, but still more on that of the midwife, the husband, and the neighbors who watched the proceedings through a half-open door, was convicted of having "committed an imprudence, an operative neglect which constitutes a grave error, *faute lourde*, which was the direct and involuntary cause of the death of the woman."

The unfortunate young man was sentenced to three months' imprisonment, but was allowed to go free on the condition that during the next five years no further charges are made against him.

Public interest was aroused, not merely by the sensational facts of the case—the ex-

treme poverty of the defendant—the bitter attack of one neighbor who testified, for example, that the doctor would have used a hammer and chisel had not the husband snatched them from his hand—but even more by the understanding, which seemed to exist on the part of the medical profession as well as among the laity, that the court was making law for physicians in general, and that hereafter to fail in an operation will be a criminal offense.

It is not wonderful that medical men resented such a remark on the part of the presiding magistrate as that made in answer to Laporte's claim that in order to save the patient's life, it was necessary to do something at once. "My God! she died just the same," was the brutal reminder of the magistrate that the operation had been unsuccessful.

After the decision had been announced, indeed, before the end of the trial, public opinion turned in Laporte's favor. Several papers started subscriptions in the young man's behalf, and with such success that his financial condition at least will be considerably better than it was at the time of his arrest, when, having missed his dinner for lack of funds, he had only 15 cents in his pocket. —*Medical News*.

A DANIEL COME TO JUDGMENT

The close relationships which are supposed to exist between the professions of the law and medicine bid fair to be strained, if not altogether sundered, if insistence be made upon a certain decision recently made in Illinois, and sustained by the Supreme Court of that Commonwealth. This decision simply places the medical profession at the mercy of every unprincipled legal shark and shyster. For the sake of making an impression upon a jury any sprig of a lawyer may subpoena the most eminent physician and cause him to lose valuable time, which, in his case, means money. It may also, unfortunately, mean the danger or possible death of a patient, and, in addition, the accusation of neglect, which was certainly forced by an arbitrary decision of a court which seems to have less respect for the rights of others than it has for itself. A mere superficial glance at the decision makes it

look rather innocent; but when we consider its far-reaching influence, the authority it conveys, and the various misuses to which it may be put, the gravity of the situation becomes apparent.

You who are physicians, be prepared to lose time, patients, prestige, everything, for the sake of sitting in a justice's or police court and receive your pitiful half-dollar for the knowledge which it has cost you nights of study, days of pondering, and intelligent effort made to achieve a name and reputation in your profession. And it is not the physician with no practice that will be called; it is he whose name is famous, as his evidence is the one required to give prestige to any ordinary case which would otherwise be consigned to well-merited oblivion. We sincerely deplore the fact that the State which has so successfully battled with quackery in medicine should be snubbed with such a legal monstrosity as the decision referred to above. We might be tempted to say now: "Poor Old Illinois." But we cannot ridicule our neighbor, as the learned opinion is a club which the courts of other States may swing at any moment and use the strength evoked by that legal shibboleth—precedent.—*St. Louis Med. and Surg. Jour.*

MEDICAL INCREDULITY

Practitioners of the healing art nearly always appear to be divided into two camps: the one composed of those who readily believe all that is brought to their attention, especially when stamped with novelty and a foreign mark, and the other consisting of doubting Thomases who scarcely believe the evidence of their own senses. To steer between such a Charybdis and Scylla is no easy matter, and even those who try conscientiously to do so are apt to fall at times to one or to the other extreme.

The best course to pursue is undoubtedly to accept no evidence until it is very conclusive, or, at any rate, to move with extreme caution in paths over which there still reigns a certain amount of obscurity. Some are always found, however, who carry their disbelief to such an extent as to deprive themselves, at any rate, for a long period of time, of measures that are proving

of the utmost value in other hands. It is a strange fact that in some of the most scientific minds disbelief assumes a character of chronicity, and that in other minds, less scientific, we often find disbelief connected with an astonishing want of knowledge in regard to certain subjects. We find among our ranks, for instance, a large number of men who are amazingly incredulous in regard to the action of drugs, and here we very often see the coexistence of a lamentable lack of scientific therapeutical knowledge. The use of drugs is not as important, in medicine, as the laity always deems it to be, yet an accurate acquaintance with their uses and possibilities is of immense assistance to the physician.—*Inter. Jour. of Surg.*

SOME OF THE DUTIES OF THE FAMILY PHYSICIAN

The duties of the family physician are limited neither to attendance upon the acutely ill, nor to the administration of drugs. He is frequently called upon to take the charge of delicate children suffering from no distinct morbid condition, whose management involves advice rather than prescribing. In their management every source of irritation and depression must be sought and removed. The general practitioner has, moreover, a certain number of families in his clientele to whom he is called with frequency and who come to look upon him as an adviser and friend. In such cases a certain peculiar responsibility devolves upon him, and he is not doing his whole duty by simple attendance during illness. He is to a certain degree the keeper of the health of all his families, but there are certain ones in the practice of every physician in which this is particularly true. He has an especial duty toward the children of his families during their whole period of growth and development. If they are frail, or the subjects of some diathesis, it should be his duty to counsel with the parents regarding them, and not infrequently to offer medical advice and even treatment without special request. It should, in fact, be his duty to see that such children do not run into preventable dangers—dangers of which the parents

know nothing, and therefore cannot foresee.

Among the subjects upon which the doctor's advice may thus be appropriately offered is the question of games and amusements. A child's life is centered so largely in his playthings and amusements that they may become matters of grave importance worthy of thoughtful consideration and by no means below the dignity of the physician. Feeble and puny children are frequently made ill, and are kept in a fretful condition by injudicious amusements. Even strong and healthy ones may be rendered irritable by over-exciting games or prolonged and exhausting play.—*Arch. of Pediatrics.*

CLINICAL TEACHING

The most zealous church-goer could hardly force himself to listen to from four to seven hours' long sermons daily, six days in a week; it is almost as hard upon the poor medical student, squirming in his hard chair, endeavoring, often vainly, to open his ears that he may hear the sapient words that flow so smoothly, so evenly, so uninterruptedly, as lecturer after lecturer saunters gracefully in to deliver his several liters of book-conned wisdom. Is it any wonder that the worn-out student protests occasionally against such pressure? It would be strange if he did not. Is it any wonder that Dr. Osler starts his young man on his way only after some hospital—any hospital—service has expired? The ancient idea that a man can be made a doctor by listening to two or three courses of lectures, 90 per cent. of which knowledge he can as easily obtain from his text-books, has been long ago exploded. It is experience that makes the physician, and his experience can only be gained by the intelligent study of cases; to the student this means personal examination under a competent instructor, of the patients who present themselves at the clinics and hospitals. The few words or explanations occasionally offered by the clinician at the bedside, to demonstrate a symptom, are of more good than a whole course of lectures. The students walking the wards of the City Hospital to-day and attending the clinics are authority for this statement.—*Cincinnati Lancet-Clinic.*

CURRENT TOPICS

ALCOHOLISM IN WOMEN

Dr. Agnes Sparks, in a paper read before the Medico-Legal Society, at its meeting of Oct. 20, 1897, and published in the *Medical Record*, Nov. 13, 1897, page 699, asserts that alcoholism in women is less strongly hereditary, presents stronger somatic factors, is less often due to fondness for alcohol, and the prognosis for treatment is better than in men. The most prominent causes are, pain incident to disorders of their sex, a neurasthenic condition, and the wear and worry of domestic life and social demands, for which relief is sought in the anesthesia of alcohol: an unsafe practice, because of extreme risk that it will end in inebriety. Alcoholism in women presents strong proof that its rise is in disturbed physical conditions, not mere depravity; in fine, that it is not a "habit," but a disease. In them the consequences of this neurosis are less patent than in men, though none the less sure. Sooner or later a well-marked consensus of symptoms lays bare the varied ravages of the disease. On ovulation the alcoholic impress is one of deranged, rather than suspended action. And so, unfortunately, the average female alcoholic is not sterile. Just the reverse obtains in the woman morphinist, and it is one of the mysteries of a divine economy that this beneficent law does not extend the same wholesome result in her alcoholic sister, and so shut off a diseased, depraved progeny that curses every community with a physical and moral blight, the extent of which is beyond compute. Effective treatment must be two-fold—preventive and curative. The hopeful outlook in cases fit for treatment warrants placing every patient under proper care. The betterment gained by well-directed treatment is often surprising, and should lead to a larger optimism among medical men as to cure. A valued psychological aid is the doctor's belief in his power to help, and the impress of this opinion stamped on the patient to the full. The conditions in each case must decide as to abrupt or gradual rum-quitting. The former should obtain if possible. Correction of untoward conditions must precede main treatment. That effected, the remedial régime is compassed, largely, by strychnine, arsenic, electricity, and hypnotism. The average alcoholic is very tolerant of strychnine, 1-30 to 1-20 grn. nitrate sub-cutan. thrice daily may be used for a month. Arsenic is a multum-in-parvo remedy. Electricity—galvanic and faradic—is a tonic and

"fidget" remover. Hypnotism serves best in periodic cases. A minor hypnosis can be secured by an earnest optimism from physician to patient.

Treatment persistent and prolonged proving of no avail, castration is commended as a preventive of begetting a tainted brood. Special stress is laid on the need of long-continued treatment. Lack of this is a large factor in failure. No case should be deemed hopeless till every aid that scientific treatment can extend shall prove of no avail.

Ending her paper, the doctor said: "In the new century the question of alcoholism on the weal of humanity will be the question outranking all others—phthisis not excepted—for it is not only a curable, but a preventable disease."

THE PASSING OF THE REFLEX

The conception of the reflexes (C. L. Dana, *Post-Grad. Med. Jour.*; ref. in *Gailard's Med. Jour.*, Sept., 1897) was due to the legitimate outcome of careful scientific research, and not the result of any sympathetic sentiment or instinctive feeling. The application of the dogma to-day, however, to practical medicine and surgery has become in a great measure the expression of a dangerous misconception and misapplied sentiment. Medical men generally fail to realize how entirely our pathology is bound up and interwoven with conceptions of the reflexes. It is now almost half a century since the facts regarding the importance of the reflex loop were given to science. Since then, the application of these has been given to the practical art of medicine, with the ever-widening circles of the alluring but delusive therapeutics. When the history of medicine of this century comes to be written, the reflex loop will be found to be filled with the dangling remains of unsuccessful therapeutical and surgical endeavors. Literature of the last thirty years has been filled with the histories of reflex neuroses from the uterus, the ovaries, the eye, the ear, the stomach, the intestines, the nose, and every organ which could be revealed by the instrument of the surgeon or the manipulation of the physician. While not ignoring their value, it is the desire to especially impress upon medical men the importance of attacking in their therapeutics the centers of the disorders rather than of nibbling away at the outer edge. The chief general proposition is that there are no reflex constitutional neuroses, by which is meant that those neuroses which are general in character, and which are classed by systematic writers as constitutional, and are not dependent upon reflex irritants, cannot be cured by attacking these.

Such neuroses are, in particular, chorea, the functional spasms, such as convulsive tic, epilepsy, paralysis agitans, even hysteria of the true, the major type. To this list may be added spinal irritation, in its typical form, and the neuralgias of a constitutional or degenerative type, such, in particular, as migrain in early life and the tic douloureux of middle life. Evidence in support of these statements is given specifically. As to epilepsy, it is always a central disease; that all cases of remarkable cures from removing some local trouble are either temporary, or that the central trouble is not true epilepsy, or has not fully established itself as such. While it is imperative that all reflex excitants be removed as much as possible, the number of attacks being thereby lessened, to cure epilepsy something must be found that will make the brain-cells more vigorous and stay their progressive tendency to degeneration. In neurasthenia there is a naturally defective or an exhausted nerve-center. Neurasthenics have vastly improved for months by tenotomy of the eye-muscles, operation upon the pelvic organs, washing out the stomach, etc., but where the condition is anyway a fixed one, these measures alone are ineffective. No doubt reflex irritation is one factor in some puerperal and menstrual psychoses, but hereditary tendencies, auto-toxemia and other agencies are much more powerful.

As to the surgical skill and daring of the present day, its effect, on the whole, has been enormously beneficial. The reflex arc, however, should be removed from its aggressive enthusiasm. The new woman is especially imperilled. Where formerly she was wont to watch the hymen, at present she must be on the lookout for the appendix, the adnexa, and the mobility of her kidney with as much care as if they were her cardinal virtues. While the surgeon, the gynecologist, the neurologist, and the specialist in general are to be admired, so also may be the reflex at times. The latter is an excellent thing, and not in the least to be ignored. It warns us against danger, it is the safety-valve of our automatic life, it regulates the secretions, it steadies our circulation, and it is ever building itself up into combinations that protect and conserve the higher machinery of life. But in the evolution of man the part played by the reflex becomes relatively smaller and smaller. Man's life and actions are most influenced by causes that are centric, by the stored-up impressions in the brain. The higher in evolution, the less important is the reflex in essentially modifying life. Do not hope, therefore, to cure disease by removing the irritant from

a sensory end-organ. Remove it, of course, but do not believe that you are then done. Fixed diseases are never cured by treatment of reflex irritation. There are reflex pains, spasms, mental disturbances; there are reflex symptoms, many and important, but there are no reflex diseases in any true and serious sense of the word. Hope and tenderness and sympathy are beautiful things. They inspire and make glad our lives, and they stimulate us to try to cure our cases when we should know that we cannot do it.

L.

THE GROWING NEED OF MEDICAL POLITICAL ORGANIZATION

Dr. John Punton (*Med. Mirror*, Nov., 1897) discussed this subject in a paper with above title read to the Mississippi Valley Medical Association, Oct. 5, 1897.

There never was a time in the history of medicine when the combining of medicine and politics was more urgently needed than the present, and instead of attempting to render so much unappreciated gratuitous service to the public let us recognize some of our own needs and doctor ourselves, for in the language of Mr. Cleveland: "Never did patient need your medical treatment more than the body politic now needs the watchful care of your patriotic and disinterested citizenship."

If the medical profession continues to ignore the agencies in the future as in the past, which rule and govern the solution of these important problems, and leave them entirely in the hands of professional politicians, then we must expect it to be answered from a purely political party standpoint.

The practice of illegitimate medicine was never more active than at present, and unless we are as active at the polls and the legislative halls as are the exponents of quackery, we must expect to suffer defeat at their hands. The writer quotes here the *Cleveland Medical Gazette* (Aug., 1897), which says "we are too indifferent and pay no attention further than occasionally an ineffectual complaining until the enemy gains such strength as to be formidable."

"We leave all the law-making to the politicians, most of whom care nothing about us. We allow ourselves to be duped and imposed upon on every side with the most idiotic complacency. The fact of the matter is we have nobody to blame but ourselves. And another truth is that we can right these wrongs as soon as we will do so and pull together for that purpose."

We as a profession should rise in our might and crush out the evils which are so prevalent under the guise of medical charity.

G.

SELECTED PAPER

ADDRESS ON PUBLIC MEDICINE DELIVERED BEFORE THE BRITISH MEDICAL ASSOCIATION AT MONTREAL, SEPTEMBER 3, 1897

By HERMAN M. BIGGS, M.D.,

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I DESIRE to express my high appreciation of the honor conferred upon me by the invitation of the Council of the British Medical Association to deliver the address on Public Medicine at its annual meeting, and for this I wish to render my grateful acknowledgment.

I interpret the invitation, however, as a tribute to the work of the Health Department of New York City, with which I have had the honor to be connected for many years, and as an expression of the desire of the Council to give recognition to the practical advances made in sanitary science in the greatest city in the New World. I have, therefore, regarded your invitation as a command to select for the subject for this address the consideration of some of the measures which have more particularly distinguished the work of the New York City Health Department, and to describe some of the procedures, followed in the sanitary surveillance of infectious diseases, which have been introduced by it.

I feel a great diffidence in presenting an address dealing with these subjects before the British Medical Association, representing, as it does, the medical profession, and, to a great extent, the health officers of a country which has been so long and justly regarded as the birthplace and home of sanitary science. It has been the custom of sanitarians of all nations to look to England for guidance and direction in matters connected with the public health, and the low mortality statistics, especially from zymotic diseases, in England testify in no uncertain language to the value of English sanitary methods and the efficiency of their execution. When we remember that never before in the world's history have there been 30,000,000 people living within 50,000 square miles, as is the case in England, and that more than 20,000,000 of this population reside in towns, often crowded, we appreciate more fully the remarkable healthfulness of the England of to-day and the extraordinary success of English sanitation, as of English methods in all the practical affairs of life.

The fact should be strongly emphasized that the advances in preventive medicine in Great Britain, as shown by the mortality tables for nearly half a century, have preceded those in every other country, and I doubt not that the influence of the British Medical Association has been no small factor in contributing to the high

standard of the public health. In view of these considerations, it is natural that a foreigner should hesitate to address this Association on questions connected with public medicine.

I must further ask your indulgence in having devoted the greater part of this address to the study and description of procedures and methods, rather than, as is generally the custom, to the consideration of some one of the broader questions in public medicine. This course has been adopted because, in my judgment, such a discussion will be of greater value and interest than the consideration of any general topic, which latter could furnish little specific information as to the conditions and methods of sanitary work in the United States.

It seems necessary, in order that you may have an intelligent conception of the conditions under which sanitary work in the United States is carried on, that I should first point out, in a general way, how they differ from those in Great Britain. It should be noted particularly that in the United States there is no national board of health, and there are no national regulations of general application. In each of the several States of the Union the sanitary administration is solely under the control of the State authorities. The State Boards of Health are energetic and progressive in many of the States, but in some there is no sanitary work of importance done.

It necessarily follows that throughout the United States there is a great lack of uniformity in regulations and methods and in the efficiency of their execution. It is hardly possible to make any definite statement as to the condition of preventive medicine generally, for what is true of one State is not true of another. Speaking broadly, in the rural districts and in the towns and smaller cities, especially in the South and West, the sanitary methods are of the crudest type. On the other hand, in many of the larger cities, there are found a broad, enlightened, and progressive policy and an efficient administration, equal to that presented in any of the great cities of the world.

Instead, therefore, of attempting the consideration of the broader subject of public medicine in the United States, I shall confine myself to a discussion of the conditions and methods of sanitary work in New York, as these serve as a type of the best of those found in the greater American cities.

The Health Department of New York City is organized under a special act of the Legislature of New York State, and is an entirely independent sanitary organization, not being subject even to the jurisdiction of the State Board of Health. The Board of Health of the Health Department is composed of four members, viz., the President, who is the chief executive officer; the Commissioner of Health, who must be a physician (these two being appointed by the Mayor of New York City), and two ex-officio members—the Health

Officer of the Port of New York (who is a State officer nominated by the Governor), and the President of the Board of Police Commissioners of New York City (the latter being added to bring the Police Department and the Health Department in closer relations to one another). The Commissioner of Health of the Health Board of New York City is, ex officio, a member of the State Board of Health, as is also the Health Officer of the Port of New York; so that two of the members of the Municipal Board are also members of the State Board of Health, but the State Board has no jurisdiction in New York City, and the action of the Municipal Board is absolutely independent.

The Board of Health of New York City has jurisdiction over the whole of New York City, as it now exists, with its population of about 2,000,000, and with the beginning of 1898 a similar board, increased to five members, will have complete jurisdiction over Greater New York, with a population of about 3,250,000. All of the administrative and executive work of the Department is concentrated at the main offices, and is carried on under the immediate direction of the chiefs of the various divisions into which the Department is divided. The act of the Legislature of New York State creating the Department gives to the Board most ample powers, executive, judicial, and legislative in character. The funds for the support of the Department are supplied from the general funds of New York City.

Before proceeding to a discussion of the management of infectious diseases in New York, I desire to call especial attention to the fact, that all matters connected with the scientific investigation, diagnosis, care, or sanitary supervision, in every way, of the infectious diseases are regarded by the Board of Health as properly coming within its province. In the development of the methods now in use, the proposition expressed has furnished the governing principle. I need hardly point out the great difference between this conception of the functions of a sanitary board and that usually held.

The duties of sanitary authorities relating to the infectious diseases are generally regarded as limited to the inspection of reported cases of only a few of the infectious diseases, their removal to hospitals when required, and the subsequent proper disinfection of the premises.

In times of emergency, as in the presence of serious epidemics, more comprehensive and stringent measures are considered justifiable; but it has not been generally regarded as necessary or desirable that municipal sanitary authorities should furnish opportunities for or assistance in the diagnosis of infectious diseases, should conduct experimental investigations into their causes, should assist in the treatment in any way of cases outside the hospitals, or otherwise concern themselves with these matters. It has seemed to us in New York City, however, that everything con-

nected with the infectious diseases in every form came properly within the scope of the Department's work.

The first important departure in New York City from the older methods was made in 1892 by the establishment of a bacteriological laboratory. This was, I believe, the first bacteriological laboratory ever established under municipal control. It was designed originally to afford facilities for the bacteriological diagnosis of the Asiatic cholera, and for the investigation of questions relating to disinfection and disinfectants. A few months after the opening of the laboratory, the scope of its work was broadened and facilities for the bacteriological diagnosis of diphtheria were offered to the physicians of New York City free of charge. The necessity for making repeated examinations during the course of this disease soon became evident, and such changes were made by the health authorities in the methods of dealing with diphtheria as were suggested by the earlier experimental observations.

The investigations of the New York City Health Department relating to diphtheria laid the foundation of municipal bacteriological laboratories and made them necessary to the proper conduct of sanitary work.

The work on diphtheria was soon followed by the perfecting of arrangements for the free bacteriological examination of sputum for the diagnosis of cases of suspected tuberculosis occurring among residents of New York City.

In October, 1894, investigations in connection with the production of diphtheria antitoxin were begun, and in December of that year the municipal authorities made a special annual appropriation (antitoxin fund) of \$30,500 for the prosecution of this work. The Health Department commenced the use of the antitoxin produced in its own laboratories on January 1, 1895. The plan, as now developed, includes:

1. The furnishing of free supplies of diphtheria antitoxin to all public institutions in New York City.

2. The furnishing of free supplies of diphtheria antitoxin to private physicians for use among persons too poor to pay for the remedy; the only condition being that reports of the cases treated be forwarded to the Health Department on their completion.

3. The free administration of diphtheria antitoxin, on the request of the attending physician, to any resident of New York City, by a specially detailed staff of medical inspectors.

The sale of the surplus product of diphtheria antitoxin was authorized by a special act of the New York State Legislature in 1895, and the funds thus derived, according to the provisions of this act, are devoted solely to "the production and use of diphtheria antitoxin or other antitoxins." The remedy is on sale in over 100 pharmacies in the city, to which it is consigned, the price being fixed by the Health Department in

all cases, and ten per cent. on the sales is allowed to the pharmacies as commission.

The special antitoxin fund made possible the establishment of a hospital and research bacteriological laboratory devoted to the production of diphtheria antitoxin and other bacteriological products and to general experimental investigations in relation to the infectious diseases. The work of this laboratory now includes the production of tetanus and streptococcus serums, mallein and tuberculin (used by the Department in the diagnosis respectively of glanders and tuberculosis in animals), and numerous experimental investigations regarding the infectious diseases, especially diphtheria, typhoid fever, tuberculosis and small-pox.

In October, 1896, arrangements were completed for placing at the command of the physicians of New York City Widal's test for the diagnosis of typhoid fever, largely after the method of Wyatt Johnston, of Montreal, and recently arrangements have also been made for the administration of Pasteur's treatment for the prevention of rabies.

A better idea, perhaps, of the extent of the work performed in the laboratories of the Health Department of New York City may be obtained from the following statistical statement of some of the routine work:

During the year 1896, 25049 cultures were examined for diphtheria bacilli; 1856 specimens of sputum from cases of suspected tuberculosis were examined for tubercle bacilli; 16796 vials of diphtheria antitoxin were issued, 818 cases of diphtheria were treated in their homes by the medical attachés of the laboratory, and 1214 persons were immunized.

The scientific staff of the bacteriological and vaccine laboratories now includes twenty-five physicians, one chemist, and two veterinarians, in addition to clerical and laboratory assistants and attendants.

A special laboratory and stable are devoted to the production of bovine vaccine virus, and this is freely distributed and vaccination is performed free of charge by the medical officers of the Department. Special investigations undertaken in this laboratory have resulted in the production of glycerinated vaccine pulp of great activity and durability. This has entirely displaced the virus prepared by drying on quills or ivory points generally employed.

The work connected with disinfection was formerly in charge of the Director of the Bacteriological Laboratories, and the methods employed are still determined in the laboratories, but the details of execution however, are now entrusted to the Chief Inspector of Contagious Diseases.

Every case of contagious disease reported to the Department is regularly inspected by the medical inspector assigned to the district in which it occurs. When consent can be obtained, such cases are removed to the department hospitals.

In tenement-house districts an effort is made to induce a patient suffering with a contagious disease to go to the hospital, and where the conditions are such as to require it, and when necessary, the removal to the hospital is enforced. A comparatively small proportion of the total cases, however, are actually treated in the hospitals for contagious diseases. After completion of the illness, or transfer of the patient, thorough disinfection is performed in the apartment and all infected materials are removed to the disinfection-station for destruction, or for disinfection by steam. After treatment they are returned to the owner, no charge being made for the services. Disinfection is compulsory in every case.

The inspection-work of the Health Department is carried on by a number of different corps of inspectors attached to the various divisions of the Department. These inspectors are in part medical men, and in part they are non-medical men who have had special training in the work to which they are detailed. The medical corps include the district medical inspectors, the district and special vaccinators, the inspectors for the administration of diphtheria antitoxin, the diagnosticians, the summer corps of inspectors, the medical inspectors of schools, the veterinary inspectors, and several special inspectors of disinfection of lodging-houses and public institutions. These various corps, with the exception of the summer corps and the school-inspectors, are permanent and are on duty throughout the year. The school-inspectors are on duty only through the school year, and the work of the summer corps is limited to July and August. There are also a number of corps of sanitary and food inspectors (not necessarily medical men) and the disinfection corps. These include the inspectors of plumbing and ventilation, the sanitary police, the inspectors of offensive trades, the inspectors of meat, fish, milk, and food, and the inspectors of mercantile establishments.

The functions of most of these different corps are, for our purpose, sufficiently indicated by the name. It may be here added, however, that, under the law creating the corps of inspectors of mercantile establishments, definite provisions are made as to employment of women and children in such establishments, and as to the time, nature, and condition of such employment.

It should, perhaps, also be stated that the function of the diagnosticians, two of whom are always on duty day and night, is to give expert assistance in the clinical diagnosis of contagious disease. It is a part of their duty to see every case of contagious disease before its admission to the department hospitals.

The veterinary inspectors have supervision of the application of the tuberculin test for the diagnosis of tuberculosis in cattle and the diagnosis of other infectious diseases of cattle and horses.

I desire now to present somewhat in detail the

methods of procedure in relation to two diseases, viz., diphtheria and tuberculosis, as in these diseases the methods have been developed to an unusual extent in New York.

Knowledge of the existence of cases of diphtheria reaches the Department, either by a direct report of the case by the attending physician, or through the forwarding of a culture to the laboratory for bacteriological examination when the case is of doubtful character. If on examination of the culture the Loeffler bacilli are found, the case is reported to the Division of Contagious Diseases from the laboratories, at the same time that a report is forwarded to the attending physician. In both instances the cases are immediately referred to the Medical Inspector connected with the Division of Contagious Diseases assigned to the district in which the case occurred. If the person lives in a tenement-house, lodging-house, boarding-house, or hotel, and a culture has not been previously made by the attending physician, the inspector makes, in each instance, a culture to confirm the diagnosis. The subsequent action of the Department depends upon the result of this culture. If diphtheria bacilli are found the case is treated as one of diphtheria; if they are absent, the subsequent treatment depends on the special conditions existing. In every instance in which the case is proven to be diphtheria, at the end of ten days a secondary culture is made by the attending physician or the District Medical Inspector, to determine whether the diphtheria bacilli are still present in the throat, and subsequent cultures are made at short intervals until the examinations show that the organisms are no longer present. The case is then referred for disinfection, a detailed statement being left at the house by the Medical Inspector in charge, to guide the disinfectors as to the course which shall be followed.

Every case of diphtheria which comes to the knowledge of the Department is recorded in a card-index, according to the number of the house and the street on which it occurs. In this index envelopes are used in place of cards, and in each envelope representing always one case, are placed all of the data relating to the first and subsequent cultures, and results, and as each case is recorded it is at the same time platted on a sectional map of New York City drawn to scale, showing every house lot in the city. This platting is done by conventional signs, so that it is possible at a glance to determine the grouping and distribution of cases in different parts of the city, the number of cases occurring in any given house in the city during the last four years since this method has been in use, and the date when reported. It is also possible in a moment, by reference to the yearly card-index, to find all the information in relation to each case which the Department possesses.

A special corps of inspectors is assigned to the administration of diphtheria antitoxin, and on request one of these inspectors will visit a

person suffering from diphtheria in any part of the city, day or night, and administer diphtheria antitoxin, under the supervision of the attending physician. When the patients are too poor to have an attending physician, the inspectors will supervise their removal to the hospitals. These inspectors are also prepared, at the request of the attending physician, to perform intubation in laryngeal diphtheria. It is the usual course, where antitoxin is administered by an inspector, to immunize all members of the family who have been exposed to the disease. Diphtheria antitoxin has also been largely employed for the immunization of the inmates of public institutions, especially children, when diphtheria has appeared. This is the ordinary routine, and in every instance during the last two and a half years it has been possible to quickly stamp out diphtheria in institutions by this process of immunization.

As already stated, diphtheria antitoxin is furnished on request free of charge to all public institutions, and may be obtained by physicians at any of the 100 depots where it is on sale, free of charge, for administration to persons who are too poor to pay for the remedy.

In connection with the study of diphtheria, experimental investigations are constantly being carried on to determine the virulence of the diphtheria bacilli found in healthy throats, in simple catarrhal angina, and in follicular tonsillitis, and regarding the various matters which relate to the bacteriological study of this disease.

The attitude assumed by the Health Department of New York City towards pulmonary tuberculosis, and the measures adopted for its prevention, constitute, in my opinion, a most important feature of its work. No more striking example of the influence of inherited and transmitted beliefs and prejudices can be found than is afforded by the exhibition of hesitation and reluctance on the part of the proper authorities to assume the sanitary supervision of the tubercular diseases. It is now universally admitted that tuberculosis is infectious and communicable, and the most fatal disease to which the human race is subjected; yet, as a rule, no effective measures, or no measures at all, have been adopted by sanitary authorities with relation to it. Nevertheless, we believe it may be more easily controlled than any other of the principal infectious diseases with which we have to deal, and that it is of as great importance—judged by the deaths it causes—as all the others together. The full courage of scientific conviction seems to have been generally lacking among public officers in dealing with this disease.

The Health Board of New York City first began an educational campaign in relation to the causation and prevention of pulmonary tuberculosis in 1889. In that year a communication on this subject, presented by the writer and the associated Consulting Pathologists of the Department, was widely published; and leaflets, based on it, giving

the essential facts as to the nature of this disease, were freely distributed. No further action was taken at that time, as investigation showed that the medical profession and the public were not then prepared for more extended measures.

In December, 1893, the attention of the Department was again called to the subject by the writer, and it was determined at once to institute more comprehensive measures for the prevention of this disease. The measures then adopted required the notification of all cases of pulmonary tuberculosis occurring in public institutions, and requested reports of cases occurring in the practice of private physicians. They also included arrangements for the bacteriological examination of sputum, to assist in the early diagnosis of this disease; the inspection of all reported cases in tenement-houses, lodging-houses, hotels and boarding-houses, and the instruction of the patients and their families as to the nature of the disease and means to be taken for its prevention; the inspection of the premises in all instances where deaths were reported as due to tuberculosis, and the issuing of orders, when it was deemed necessary, upon the owners of apartments which had been occupied by consumptives and vacated by death or removal, requiring that such apartments be thoroughly renovated, by cleaning and by painting, papering, or calcimining, before they were again occupied by other persons; and finally the education of the public, by wider and more comprehensive methods, as to the nature of this disease.

Placards were attached to the doors to prevent the re-occupation of apartments which had been vacated by death or removal before the orders requiring renovation had been complied with.

Under the resolutions by virtue of which these measures were enforced, 4166 cases of tuberculosis were reported in 1894; 5818 in 1895, and 8334 in 1896. So far as was possible all of these cases, except those in private houses, were visited or the premises where they had lived were inspected, and, in addition, the premises occupied by persons dying from tuberculosis (numbering each year nearly 6000) were inspected and such action taken as was considered possible and desirable. Altogether the premises and cases thus coming under observation during these three years numbered more than 35000.

These facts convey some idea of the enormous sanitary importance of the subject. It is conservatively estimated that there are at least 20,000 cases of well-developed and recognized pulmonary tuberculosis now in New York City, and an additional large number of obscure and incipient forms of the disease. A very large proportion of the former cases constitute more or less dangerous centers of infection, the degree of danger depending in each instance upon the intelligence and care which are exercised in the destruction of the expectoration. All the suffering and death consequent upon the prevalence of this disease,

in view of modern scientific knowledge, is largely preventable by the careful observation of simple, well-understood, and easily applied measures of cleanliness, disinfection, and isolation.

In the beginning of 1897, the Health Board further adopted some recommendations made jointly by Dr. T. Mitchell Prudden, Consulting Bacteriologist to the Health Department, and the writer, which advised that pulmonary tuberculosis be declared to be "an infectious and communicable disease, dangerous to the public health," and which required "the notification of all cases occurring in the city," in the same way as is required in regard to typhoid fever, diphtheria, and other similar diseases. Tuberculosis, however, in accordance with the special section of the Sanitary Code, enacted to provide for these measures, is distinctly separated from the eruptive diseases—is not classed with them as a contagious disease, but is referred to as "an infectious and communicative disease." It has always appeared to the Health Board exceedingly desirable that a broad distinction should exist in the public mind between this disease and those diseases which are more properly classed as contagious.

In the treatment of apartments which have been occupied by tubercular patients and vacated by death or removal, renovation has been and is ordered, rather than disinfection attempted, because the Health Board has always felt that disinfection for tuberculosis in the poorest tenement-houses was too difficult to be satisfactorily performed, and has considered renovation as certainly efficient. In the thousands of orders requiring the renovation of premises, which have been issued under the resolution referred to upon the owners of real property during the last four years, little or no difficulty has been experienced in enforcing compliance, and rarely has there been serious objection.

Public institutions, hospitals, asylums, homes, etc., are now not only required to report the name, last address, sex, age, and occupation of every case of tuberculosis coming under observation within one week of such time, but they are further required to notify the Department of the discharge or transfer of such patients. The purpose of this procedure is to keep under more or less constant supervision those cases of pulmonary tuberculosis which occur among the poorest classes of the population; in other words, those which are most likely to be dangerous sources of infection to others. Unfortunately, at the present time there are no hospitals, directly under the control of the Health Department, for the care or isolation of cases of pulmonary tuberculosis; but it is hoped that such hospitals may be soon provided.

The best medical opinion forbids that persons suffering from pulmonary tuberculosis be treated in association with other classes of cases in the general medical wards of general hospitals. This opinion is based on the daily observation of dangers incident thereto, and it has very properly

resulted in the exclusion, to a large extent, of persons suffering from this disease from many of the general hospitals to which they were formerly admitted.

A large experience has also shown that in institutions devoted solely to the care of consumptives the general welfare of the patients is more easily fostered, and risks of fresh infection more certainly diminished and the chances for recovery more surely enhanced, than in general hospitals in which all classes of cases are received.

From the beginning of this work, the officials of the Health Department of New York City have encountered, in the lack of proper facilities for the care of consumptives, a great obstacle to practical success, and I am convinced that the grave responsibilities which rest upon sanitary authorities generally in this matter cannot be properly discharged without the establishment, under their direct control, of additional special hospitals for the care and treatment of this disease. No week passes in which the officers detailed in this work in New York do not encounter many instances in which the members of many households, numerous inmates of crowded tenement-houses, employees in dusty and unventilated workshops, and many others, are dangerously exposed to infection from victims of this disease, who cannot gain admittance to the overcrowded public institutions, or who reject all proffered assistance and instruction, and, from ignorance, indifference, or inability, through weakness due to the disease, scatter infectious material broadcast, thus diminishing their own chances for recovery and imperiling the health and safety of others. In such cases sanitary suggestions are futile, and removal to a hospital constitutes the only effective action. I am convinced that no factor is so potent to-day in perpetuating the ominous death-list from pulmonary tuberculosis as the lack of proper facilities for the adequate care of the poor stricken with this malady.

The measures designed for the prevention of tuberculosis properly include not only those which relate to the transmission of the disease from human beings to each other, but also those which relate to the transmission of the disease from affected animals, especially the bovine species, to human beings, through the meat and milk used as food. The Health Department of New York City, while feeling strongly that the most important source of infection is through the sputum of consumptives, has yet elaborated with great care methods for protecting the public, so far as lies within its power, from infection by the meat and milk of tubercular animals. In order that a more effective control of the milk-supply should be possible, an ordinance was passed in 1895 forbidding the sale of milk within the city without a permit from the Health Department, and requiring that all wagons used for transportation or delivery of milk should likewise have wagon permits. Before these permits are issued, the holder

of the permit must furnish information as to the source from which the milk is obtained, the number of animals, the character of the food-supply, and the sanitary conditions surrounding the dairy. Special regulations have been established with regard to the sale of milk, and permits may be revoked at any time by the Health Board, where evidence exists that the regulations have not been strictly complied with. All milch-cows in New York City (about three thousand in number), are now being subjected to the tuberculin test, under the supervision of the Health Department, and animals found to be diseased are killed. It is proposed, as soon as this work is completed in New York City, to require similar tests to be applied to all cows whose milk is sent to New York City. There also exists a careful inspection of animals slaughtered for food, and of all meats sent into the city, and the carcasses of those found to be tubercular are destroyed.

Most beneficial effects have already resulted from the various measures instituted for the prevention of this terrible disease. Not only has there been a very material decline in the number of deaths occurring from it, but there has been a most gratifying increase of knowledge and intelligence as to its nature among the poorest class of the population. The inspectors detailed for this work report, that on their first inspection, in nearly one-half of the cases occurring in many parts of the tenement-house districts of the city, it is found that more or less efficient precautions are being taken for its prevention. Such precautions are the use of rags to receive the sputum, which are later burned, instead of handkerchiefs; the use of cups containing water or a disinfecting solution; the separation of the clothing of the patient from that belonging to others, and similar measures.

This increase of intelligence, and the precautions resulting from it, afford the greatest promise for the future, of a persistent and still more rapid decline in the frightful morbidity and mortality caused by the tubercular diseases.

Investigations made by the Department, showing that the dust in the street-cars and various public places is often infectious, led to the enactment of an amendment to the Sanitary Code prohibiting spitting on the floors of street-cars, ferry-boats and other public conveyances, and requiring that all companies should post in their cars, boats, etc., printed notices forbidding this. This regulation is very difficult of enforcement; but, while the results have been by no means entirely satisfactory, there has yet been a definite improvement in the existing conditions.

The method employed for recording and plotting cases of diphtheria is also used for cases of tuberculosis.*

* Transcripts from the maps were shown on which were plotted the cases of diphtheria and tuberculosis in certain wards of the city. These wards have been selected in each instance because of the large number of cases of the respective diseases occurring in them. Maps 1 and 2 showed

TABLE I

Analysis of Distribution of Reported Cases and Deaths from Tuberculosis in 1894, 1895, 1896, to March, 1897

WARD IV

According to the census of 1896, there were 663 inhabited houses in Ward IV, with a population of 18323, or an average number of 27.6 persons per house.

Number of houses in which cases occurred..	248
Number of cases in 1894.....	173
Number of cases in 1895.....	161
Number of cases in 1896-'97.....	207
Total number of cases in 3 years.....	541
Average number of cases per infected house..	2.81
Percentage of houses infected.....	37.3
Average number of cases per house in ward..	0.81

Cases per 1000 population in 1894.....	9.4
Cases per 1000 population in 1895.....	8.7
Cases per 1000 population in 1896-'97.....	11.2
Total cases per 1000 population in 3 years..	29.3

TABLE II

WARD IV

Houses showing 3 or more cases each of tuberculosis.

Number of houses in which 3 or more cases occurred	70
Number of cases in 1894.....	88
Number of cases in 1895.....	95
Number of cases in 1896-'97.....	119
Total number of cases in these houses in 3 years.....	302
Average number of cases per house.....	4.3

Comparing these figures with those obtained for the whole ward:

Total number of infected houses in Ward IV..	248
Number of houses in which 3 or more cases occurred	70
Percentage on total infected houses.....	28.2
Total number of cases in ward.....	541
Cases occurring in 28.2 per cent. of houses infected	302
Percentage of total cases.....	55.8

Total number of inhabited houses..... 663

respectively the Fourth and Sixth wards, with the distribution of reported cases and deaths from tuberculosis in these wards during three years. The cases and deaths in 1894 were plotted with a circle; cases and deaths in 1895 with a triangle, and the cases and deaths in 1896 with a dagger. The dwelling houses in the maps were colored so as to put them in contrast with buildings not occupied as dwelling-houses. The dwellings which had one or more cases of tuberculosis during this period were colored pink, and those free from tuberculosis during these years were colored blue. The plots which were left uncolored are not dwelling-houses, but occupied as business buildings, warehouses, etc. These maps argue more forcibly for the infectious and communicable character of this disease than could any words. It should be said, however, that in some instances where a large number of cases have occurred in one house during these years, the house had been occupied as a Chinese lodging-house. This is especially true of several of the houses on Pell and Mott streets. Maps 3 and 4 show the distribution of cases of diphtheria for the same period in the Tenth and Thirteenth wards. These maps, as has been said, are simply transcripts, reduced in size, from the maps on which are plotted, day by day, the reported cases and deaths from these diseases throughout the city.

Number of houses in which 55.8 per cent. of cases occurred..... 70
Percentage in total houses.....10.5

It is thus seen that of the infected houses 28.2 per cent. contained 55.8 per cent. of the cases, and these occurred in only 10½ per cent. of all the houses in Ward IV.

TABLE III

WARD VI

According to census of 1896, there were 630 inhabited houses in Ward VI, with a population of 22897.

Number of houses in which cases occurred... 239
Number of cases in 1894..... 157
Number of cases in 1895..... 127
Number of cases in 1896-'97..... 191
Total number of cases in 3 years..... 465
Average number of cases per house.....1.94
Total number of dwellings in ward..... 630
Number of houses infected with tuberculosis. 239
Percentage of infected houses.....37.9

Average number of cases per house in ward... 0.72
Cases per 1000 population in 1894..... 6.8
Cases per 1000 population in 1895..... 5.5
Cases per 1000 population in 1896-'97... 8.2
Total number of cases per 1000 population in 3 years.....20.5

TABLE IV

WARD VI

Houses showing 3 or more cases each of tuberculosis.

Number of houses in which 3 or more cases occurred 45
Number of cases in 1894..... 72
Number of cases in 1895..... 56
Number of cases in 1896-'97..... 76
Total number of cases in these houses in 3 years..... 206
Average number of cases per house..... 4.5

Comparing these with the figures obtained for the whole ward:

Total number of infected houses..... 236
Number of houses in which 3 or more cases occurred 45
Percentage of total infected houses.....18.0

Total number of cases in ward..... 465
Cases occurring in 18.9 per cent. of houses infected 206
Percentage of cases in same.....44.3

Total number of inhabited houses..... 630
Number of houses in which 44.3 per cent. of cases occurred..... 45
Percentage in total houses..... 7.1

Thus 44.3 per cent. of the cases occurred in 18.9 per cent. of the infected houses, and these constituted only 7.1 per cent. of all the houses in Ward VI.

I desire now to refer to the system of medical school inspection, instituted by the Health De-

partment during the last year, which has given thus far most satisfactory results, and which promises greater good in the future.

Early in 1897, under the authority of a special resolution of the Board of Estimate, 150 Medical School Inspectors were appointed by the Health Board, after civil-service examination. The duties of these inspectors consist in the examination daily, at the opening of the primary and grammar departments of each of the public schools and of the parochial and industrial schools, of all the children who are set apart by the respective classroom teachers as not appearing to be entirely well. These children are examined in each school by the Inspector detailed to the school; and are either excluded from the school-room or returned to the class, depending on the result of the examination. Every pupil found to be suffering from any form of general contagious disease or any contagious disease of the eye or parasitic disease of the skin is sent home, with a written statement to the parents of the cause for the action, and in the case of the eruptive diseases and diphtheria, reports are immediately forwarded to the Chief Inspector of Contagious Diseases, and by him referred to the various District Medical Inspectors for inspection and supervision.

During three months (65 school days) in which this system has been in operation, there have been examined 63,812 children, who had been set aside by the teachers as not appearing entirely well, of which number 4,183 were excluded for the following reasons:

Measles	88
Diphtheria	167
Scarlet fever.....	32
Croup	11
Whooping-cough	26
Mumps	117
Contagious eye-diseases	702
Parasitic diseases of head.....	2,627
Parasitic diseases of body.....	108
Chicken-pox	130
Skin-diseases	175
	<hr/> 4,183

The children excluded because they were thought to be suffering from measles, scarlet fever, diphtheria, and chicken-pox were afterwards seen by the Medical Inspector, and in the majority of cases the original diagnosis was confirmed.

The educational work of the Health Department is, I believe, of great importance. It has been the custom of the Department for some years past to issue from time to time circulars of information on various topics, and especially with relation to the infectious diseases, their diagnosis, treatment, or management. Some of these circulars are popular in character, very large editions being published, 50,000 or more at a time, and are designed for general distribution, particularly among the tenement-house population.

Examples of this class are the following: "In-

formation for Consumptives and their Families," "Infant-feeding," "Methods of Transmission of Contagious Diseases," and numerous others on similar topics. Circulars of information are also issued which are designed for distribution among the medical profession. These relate to the work of the Health Department in connection with infectious diseases, or to the bacteriological products of the laboratories. Many such circulars have been issued on various topics connected with diphtheria, such as "Bacteriological Examinations for the Diagnosis of Diphtheria," "Relation of Membranous Croup to Diphtheria," "Diphtheria Antitoxin," "Persistence of Diphtheria Bacilli in the Throat during Convalescence from Diphtheria," "Occurrence of Diphtheria Bacilli in Healthy Throats and in Catarrhal Angina," etc. Other circulars of information have been issued on "The Importance of Bacteriological Examinations in the Early Diagnosis of Pulmonary Tuberculosis," "The Nature and Causation of Pulmonary Tuberculosis," "The Measures adopted by the Board of Health for the Prevention and Restriction of Pulmonary Tuberculosis," and on the use of "Mallein," "Tuberculin," "Tetanus Antitoxin," "Glycerinated Bovine Vaccine Virus," etc.

As these various circulars are published by the Health Department, copies of them are sent to the medical journals published in New York City and to the daily press. Thus they gain at once a wide circulation. In addition, some one or more of these circulars is included in each report of the results of the bacteriological examinations in diphtheria and tuberculosis, as they are sent from the laboratories. As more than one hundred reports daily are sent out, a large circulation is again attained among physicians in this manner. In some instances, circulars considered to be of unusual importance have been delivered by messenger to the house of every physician in New York City.

Aside from the circulars described, numerous scientific bulletins have been issued from time to time from the bacteriological laboratories, detailing the results of original investigations in connection with infectious diseases, and these bulletins are widely distributed among the profession of New York City.

I do not believe that the importance of this educational work can be over-estimated. Its value is incalculable in widely disseminating popular and scientific information with regard to the results of the latest studies in infectious diseases, and there have been constantly exhibited in New York the most gratifying indications of the influence of the information thus distributed, on both the general public and the medical profession.

More than this, the circulars kept constantly before the medical profession and the laity the work, the duties, and the functions of the Health

Department, as related to the people and the profession.

It has been frequently urged, especially in the earlier work of the New York City Health Department, that the methods proposed were theoretically commendable enough, but that they were impracticable. This criticism has been often made, particularly in Europe. The best reply to it is, that the results have shown that they are not impracticable. What has been described is not something that it is proposed to do, but it is a statement of what has been and is being done, and this work, as briefly outlined in some of its phases, is to be considered as only introductory.

It is the purpose of the Health Board to establish a supervision of all infectious diseases along the lines which have been thus far developed in relation to tuberculosis and diphtheria, as rapidly as the scientific knowledge at command will make such a course possible.

The final test of the efficiency of any scheme of sanitary control and of the healthfulness of any community or locality is found in the morbidity and mortality statistics, considered in relation to the causes of sickness and death. It is not simply the number of deaths or cases of sickness in proportion to the population, but also the nature of the diseases which cause morbidity and mortality.

In comparing the statistics for different localities, however, the special factors relating to each locality must be taken into consideration; for a death-rate which would indicate unusually favorable conditions in a large city might show far more favorable conditions in a rural population. The density of population has generally a very definite relation to the mortality.

Dr. Farr attempted to deduce a formula by which the mortality of any locality could be translated into that of another having a different degree of aggregation of the population. He showed that when the population has reached a certain density, there is a constant and uniform increase in the death-rate with any further increase in its density. For example, in 50 districts in Great Britain, with a population of 2,500,000 and with 650 persons to a square mile, the death-rate was 20.5 per thousand. In those districts which contained 2,100 persons to a square mile and a population of 2,000,000 the death-rate had increased to 24.4; with a population of 2,800 to a square mile the death-rate had further increased to 25.5, and with a population of 6,144 persons to a square mile the death-rate was 30.2.

The local variation in mortality with the density of population has not been constant in New York City, for in some of the wards, where the density of the population is greatest, the mortality has been below the average, and in other wards, with a relatively scarce population, the mortality has been extremely high. Other factors have exerted an even greater influence on local variations of mortality than density. The highest death-

rates have been found in the lower and oldest parts of the city, where the buildings are old and the sanitary conditions in many respects unfavorable.

The nationality of the population has a definite influence, as has been shown in an analysis of the death-rates in different parts of New York City made by Dr. Roger S. Tracy, Registrar of Vital Statistics. Those districts with the densest population, where the rates are comparatively low, are largely inhabited by Russian and Polish Jews, who are a hardy race and proverbially long-lived. On the other hand, the wards having the highest death-rates, or nearly the highest, are occupied largely by Italians, among whom, in the United States at least, the death-rate is exceedingly high.

than 25 x 100 feet, and frequently 20 families, numbering more than 100 persons, live on an area of this size.

The average density of population in New York City below the Harlem River, i. e., on Manhattan Island, is greater than that of any of the other great cities of the world. The only localities approaching in density of population certain wards in New York are a small area in Paris, where the population is 430 to the acre; one district in Prague, where the population is 495 to the acre; the Whitechapel district in London, which has a population of about 300 to the acre in Spitalfields, Mile End, and Newton, and 365 in Bethnal Green. In New York City, Sanitary District A of Ward XI has a population of more than 800 to the acre;

TABLE V

Annual death-rate in New York City from all causes, and for certain diseases, 1886-1896, inclusive, and January-July, 1897:

YEAR.	All Causes.	Diphtheria and Croup.	Phthisis.	All Tubercular Diseases.	Measles.	Small-pox.	Scarlet Fever.	Typhoid Fever.	Diarrheal Diseases of Children under Five Years.	Diphtheria and Croup, all Tubercular Diseases, Measles, Small-pox, Scarlet Fever, Typhoid Fever, and Diarrheal Diseases of Children under Five Years.
1886.....	25.99	1.87	3.79	4.42	0.46	0.022	0.26	0.23	2.08	9.34
1887.....	25.32	2.06	3.56	4.06	0.52	0.067	0.40	0.22	2.20	9.53
1888.....	26.39	1.68	3.46	3.90	0.39	0.050	0.89	0.24	2.60	9.24
1889.....	25.32	1.46	3.31	3.86	0.30	0.0006	0.79	0.25	2.00	8.86
1890.....	24.87	1.11	3.41	3.97	0.45	0.001	0.92	0.22	1.86	7.86
1891.....	26.31	1.19	3.11	3.50	0.40	0.001	0.74	0.23	1.92	8.04
1892.....	25.95	1.23	2.95	3.55	0.51	0.050	0.57	0.23	1.85	7.99
1893.....	25.30	1.45	2.91	3.51	0.22	0.060	0.31	0.22	1.65	7.42
1894.....	22.76	1.59	2.57	3.16	0.32	0.085	0.30	0.18	1.50	7.14
1895.....	23.11	1.05	2.77	3.34	0.42	0.005	0.25	0.17	1.51	6.75
1896.....	21.52	0.91	2.58	3.06	0.37	0.0005	0.21	0.15	1.32	6.02
Ja.-Jy., 1897	19.60	....	2.44	2.97	0.20	0.021	0.30	....	....	....

The sanitary problems presented in a city like New York are usually difficult, on account of the diversity and cosmopolitan character of the population. The presence of large numbers of foreign-born inhabitants of many different nationalities, grouped often in restricted localities and retaining their native customs and modes of life, and the great density of the population, constitute factors which largely complicate the situation.

The physical conformation of Manhattan Island is, in some respects, exceedingly unfavorable. The island is long and very narrow, and as a result certain parts of the city, and in fact the island as a whole, is overcrowded. Fully three-fourths of the population live in tenement-houses, which are five, six or more stories in height, and contain from two to four or more families on each floor. Each house is placed on a lot not more

Ward X, over 640 to the acre; Ward XIII, 540; Ward VII, 360, and Ward XIV, 295.

These facts must be kept in mind in considering the mortality statistics of New York, as compared with those of the large cities of Great Britain and the Continent. With these before us, the diminution in the death-rates, and the present death-rate, are most significant.

A comparison of the mean total death-rate for decennial periods in New York City since 1834 shows that there was an increase during the first three periods ending in 1863, and that since that date there has been a continuous and very heavy decline in the rate, especially marked in the most recent years. The mortality in New York arose to such a high point that the inhabitants became alarmed, and in 1866 the Health Department as now constituted was organized. In the decennial period ending in 1843 the mean death-rate was

28.03; for the period ending 1853 it had risen to 33.81; during the next period, ending in 1863, it was 33.94. Since that time it has declined to 31.11 for the decennial period ending in 1873; to 26.87 for the period ending in 1883; to 25.78 for the period ending in 1893, while in the year 1894 it was 22.76; in 1895, 23.10; in 1896, 21.54, and for the first half of 1897, 19.60. The population meanwhile has increased from 312,000 in 1840 to an estimated population of 1,990,000 on July 1, 1897.

The mortality rate is normally higher for the first half of the year than the second half, and it is therefore probable that the rate for 1897 will be a fraction over 19, or a diminution of 25 per cent. on the death-rate for the decennial period ending in 1893.

The percentage of mortality occurring in children under five is always high, and has been long

TABLE VI

Death-rates in New York City for all causes and for certain diseases by decennial periods, 1844 to 1893; by years, 1894, 1895, and 1896, and January-July, 1897.

	All Cases.	Over Five Years of Age.	Under Five Years of Age. ¹	Miasmatic, Diarrheal and Tubercular Diseases. ²
1844 to 1853 ³ ...	33.81	....	....	....
1854 to 1863....	33.94	....	....	....
1866 to 1873 ⁴ ...	31.11	17.2	123.3	13.2
1874 to 1883....	26.87	16.4	104.7	11.8
1884 to 1893....	25.78	16.8	95.1	9.3
1894.....	22.76	14.7	85.3	7.5
1895.....	23.11	15.1	85.3	7.2
1896.....	21.52	14.5	76.4	6.4
Jan.-July 1897..	19.60	13.9	64.8	⁵ 5.4

regarded as an excellent index of existing sanitary conditions. The injurious effects of unsanitary conditions and surroundings always fall heaviest upon the youngest element of the population.

Table VI shows the death-rate from all causes and the rate over and under five years of age for

¹ The population under five years of age is computed for each decennial period or year as 11.37 per cent. of the total population based on the census of April, 1895. In 1880 the percentage of population under five years to total population was 11.63, based on the United States census of that year.

² Miasmatic diseases include small-pox, measles, scarlet fever, typhoid fever, typhus fever, simple and ill-defined and irritative fevers, diphtheria, croup, and whooping-cough.

³ The general death-rate prior to 1851 is below the actual rate, as the registration of deaths, where burials occurred within the city limits, was not required by law.

⁴ Eight years only: 1866-1873. Health Department organized in 1866.

⁵ This rate is comparatively too low as the deaths from diarrheal diseases are at a maximum during the third quarter of the year.

The rates given in the above tables are the crude death-rates.

the decennial periods since 1866, and for 1894-'95-'96 and the first half of 1897.

As will be seen, the average death-rate in children under five for 1894, '95 and '96, was 40 or more per 1000 less than the average rate during the eight-year period ending in 1873, and in 1896 was 47, or 38 per cent. less than for this period. In 1897 there will undoubtedly be a still greater diminution, although the death-rate for children under five for the first six months of the year cannot be taken as the average for the year, as the deaths from diarrheal diseases are always much lower during the first half of the year.

The table also shows the combined death-rate from miasmatic, diarrheal, and tubercular diseases for these same periods and years, and, as will be noted, there has been a diminution of more than 50 per cent. in the deaths from these diseases during these years.

The search for the causes of diminished mortality from all causes shows that the largest reduction has been in the zymotic death-rate, including diarrheal diseases of children under five, and there has been also a steady and important decline in the tubercular death-rate since 1886 (Table V.)

Investigation further shows that a special reduction in the mortality from diphtheria and croup, amounting to nearly 40 per cent., has occurred since the introduction of diphtheria antitoxin with the beginning of 1895. This reduction has taken place in spite of an increase in the number of reported cases of this disease. Up to the beginning of 1895 there had been a steady increase for some years in the mortality from diphtheria and croup, and for the year 1894 the death-rate was higher than that from any other single disease, excepting tuberculosis and pneumonia—pneumonia really including a number of different affections. The combined death-rate from measles, scarlet fever, diphtheria, croup, small-pox, and typhoid fever has been reduced almost exactly one-half within ten years, the rate for 1896 for these diseases being 1.64 per 1000 population, as contrasted with 3.36 for 1887; for 1897 it will apparently be still lower.

The government of the United States is democratic, but the sanitary measures adopted are sometimes autocratic, and the functions performed by sanitary authorities paternal in character. We are prepared, when necessary, to introduce and enforce, and the people are ready to accept, measures which might seem radical and arbitrary, if they were not plainly designed for the public good, and evidently beneficent in their effects. Even among the most ignorant of our foreign-born population few or no indications of opposition or resentment are exhibited to the exercise of arbitrary power in sanitary matters. The public press will approve, the people are prepared to support, and the courts sustain, any intelligent procedures which are evidently directed to the preservation of the public health. The belief is never aroused in any class of the

population, however ignorant, that the institution or enforcement of any sanitary measures is primarily designed for the restriction of individual freedom. There is nowhere to be found any jealousy or distrust of law or government, as such. It is, therefore, possible to adopt measures more arbitrary in many respects than could be adopted in most other countries, simply because our government is democratic.

This gives the key-note to the attitude of the sanitary authorities of New York. The most autocratic powers, capable of the broadest construction, are given to them under the law. Everything which is detrimental to health or dangerous to life, under the freest interpretation, is regarded as coming within the province of the Health Department. So broad is the construction of the law, that everything which improperly or unnecessarily interferes with the comfort or enjoyment of life, as well as those things which are strictly detrimental to health or dangerous to life, may become the subject to action on the part of the Board of Health. It attempts not only to increase the healthfulness of the city, but also to render it a more enjoyable and comfortable place of residence. In its relation to the medical profession, it aims to give every assistance which the latest scientific investigations can place within its power, in the treatment and management of communicable and infectious diseases, while not interfering in any way with the privileges or prerogatives of the medical attendant, unless such interference becomes necessary for the protection of other persons from possible infectious diseases, the violation of which may be followed by the forcible removal of the patient to its hospitals. The public press, quite without reference to its political affiliations, offers a unanimous and most cordial support to the policy of the Board.

The conduct of sanitary matters in New York is restrained by no traditions or precedent. It is determined from month to month by what is believed to be for the best good of the inhabitants, in view of the most recent knowledge and the latest developments in scientific medicine.

The limits of this address do not permit, nor is it desirable, that I should touch upon many of the other phases of the work of the Health Department indirectly related to the prevention of disease and the preservation of the public health.

It has been my purpose, as was stated in the introduction, simply to detail some of the features which have more particularly distinguished the work of the New York City Health Department, and to describe some of the phases of the sanitary supervision of certain infectious diseases which has been introduced by it.

I believe it may be truly said that there is no great city in the world to-day which, in the broad sense, is cleaner and healthier than New York. By clean is meant the purity of the atmosphere, the cleanliness of the streets, the abundance and purity of the water-supply, and the efficiency of

the sewerage system. I wish that so much could be said as to the character of the habitations of the poor, the public baths and public-convenience stations, the breadth of its park and public commons, and the type of its charitable and penal institutions. In many of these respects New York is deficient; but great and rapid advances have been made and are being made in these matters.

When it is said that no city is healthier than New York, this statement is made with a consideration of all the sanitary factors in the situation, such as the size and density of the population, the varied nationality of the inhabitants, the character of the climate, etc.

Nowhere can there be found a fuller recognition than in the United States, of England's high standard of excellence in public medicine, or a more sincere appreciation of her vast contributions to the progress of sanitary science. But she must look well to her laurels, if her cities are to be kept cleaner than the great cities of the United States, and her urban population made healthier and happier than the same class on this side the Atlantic.

In the United States we are prepared to adopt, without hesitation, the best that England produces, or that the world affords, in public medicine, as well as in science, art, and commerce; and notwithstanding the persistent and determined efforts of our sensational press, the sentiments of the medical profession and of the people at large towards Great Britain are those of sincere respect for her institutions, profound admiration for her great achievements, and warm affection for her people.

If I have appeared in this address to dwell too long upon and described too fully some of the sanitary methods followed in New York, I would urge in extenuation that it has been from a desire that you should know our institutions and methods, as well as we know yours, and that through the medium of this great medical association, the largest and most influential in the world, the two great English-speaking nations might, in this respect, be brought into somewhat closer and more intelligent relations with each other, and thus greater good redound to preventive medicine, so that the people of both nations may live healthier and, therefore, longer and happier lives.

Dr. C. Prentice, of Chicago, has put forth the claim that any physician can tell with absolute certainty when a person is dead by examining the retina. The characteristic difference between the veins and arteries that ramify upon its surface disappears immediately as soon as life is extinct, and does not do so until death has occurred. As soon as we are dead the color of both veins and arteries becomes the color common to veins. In all cases of suspended animation that simulate death he says that by using an ophthalmoscope the physician will see that the veins and arteries of the retina will show their characteristic difference of color.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Diabetic Coma—Its Etiology, Symptoms, and Treatment

Dr. Thomas B. Fletcher, Associate Professor in Medicine in Johns Hopkins University, has an article with the above title in the *N. Y. Med. Jour.* (Vol. LXVI, No. 25, p. 821).

All acute terminations of diabetes associated with loss of consciousness are not identical with the diabetic coma. Thus a comatose condition may occur in diabetes as a result of (1) cerebral apoplexy, (2) tuberculous meningitis, and (3) uremic intoxication. But excluding these cases, there is a form of coma presenting a group of fairly constant symptoms and differing from the forms just referred to.

After reviewing the numerous theories which have at one time or another been held as to the causation of diabetic coma, such as effusion of serum into the arachnoid, retention of urea, excess of ammonia in the blood, the presence of acetone, the presence of diacetic acid, fat-embolism of the pulmonary and cerebral capillaries, the author reaches the conclusion that, "according to our present knowledge, it may be definitely stated that diabetic coma is due to an acid intoxication produced by the circulation of excessive quantities of β -oxybutyric, and possibly also diacetic acid in the blood, these being the products of the decomposition of the body-albumins." Constipation plays an important part as a predisposing cause, and so do nervous shock and exposure to cold.

The premonitory symptoms vary in different individuals. The attack sometimes begins with maniacal excitement. More commonly abdominal pain or headache is complained of. The rapidity of the pulse is an important prodromal sign. Sometimes suddenly, sometimes after headache, insomnia, restlessness, vertigo, and symptoms resembling alcoholic intoxication, the patient falls into a condition of somnolence, which rapidly or more slowly passes into deep coma. The patient lies quietly in bed without any convulsive movements, or at most only with slight clonic twitchings. The pupils are dilated, the eyes are half-open, or the lids are slowly raised and lowered. The pulse is small and slightly accelerated. The temperature may at first be elevated, but later sinks far below normal. The respirations are characteristic, there is a deep, long-drawn inspiration without

stridor, followed by a short expiration. A slight, gradually increasing cyanosis soon arises, due apparently to obstruction to peripheral circulation. The breath may have an alcoholic or fruity odor from the exhalation of acetone. In this condition the patient remains for from twenty-four to forty-eight hours, rarely longer, when death supervenes.

The treatment must be chiefly prophylactic, as when diabetic coma has actually set in very little can be done. If the patient has been taking carbohydrates in considerable quantities, they must be reduced and proteids substituted, and *vice versa*. Constipation must be relieved by mild laxatives.

Von Noorden recommends large amounts of alcohol given in divided doses. To prevent fermentative processes in the alimentary canal antiseptic and antizymotic drugs should be given, such as thymol or sodium salicylate. And lastly, to neutralize the acids circulating in the blood, alkalies or alkaline waters should be administered, either by the mouth or rectum.

After the coma has set in we are practically helpless. Transfusion of blood, inhalations of oxygen, intravenous injections of solutions of sodium phosphate, of sodium chloride, and of sodium carbonate, have proved of slight temporary benefit. A dose of castor-oil and from 30 to 60 grn. of potassium citrate in large draughts of water every hour have proved successful in two cases in the hands of Reynolds. The most common method of treatment in present use is the subcutaneous and intravenous injection of large quantities of normal saline solution at repeated intervals. It is the method employed at the Johns Hopkins Hospital. It was used in ten cases. In two the patients were restored to complete consciousness, so that they would have been quite capable of making a will. Both cases terminated fatally, however. In three cases there was improvement in pulse and respiration, though consciousness never returned. In the remaining five cases no improvement was noticed [not a very excellent showing]. Von Noorden also recommends injections of camphor and ether. R.

Etiology of Acute Articular Rheumatism

Riva (*Morgagni*, July 24, 1897) reported to the Medico-Surgical Society of Pavia, Italy, the results of his studies regarding the etiology of acute articular rheumatism.

He made cultures of arthritic and pleuritic fluids and blood taken from eight patients; one of them was affected by a complication of bilateral pleuritis and pericarditis. The artificial culture-medium employed

was a broth obtained by boiling fresh horses' articular heads with capsules and synovial fluid in water with some sodium chloride, to which was added the usual quantity of peptone and glucose as well as sufficient lactic acid to give a slight acid reaction.

To prepare a solid culture-medium to every 100 parts of the broth he adds 8 to 10 of fish gelatin. Besides these media he used blood, and the articular fluid of the patient himself, without any adjunction; and finally fluid taken from a patient previously stricken with a traumatic affection of the knee, and which proved to be sterile.

The colonies developed at the surface as a pellicle, when the inoculation was superficial as well as along the course of the platinum needle. The gelatin and the solidified broth are liquefied gradually as the culture proliferates, and all the medium becomes muddy. The colonies assume the appearance of spherules, with a thick, center-like nucleus. When fully developed they can be reinoculated.

In young cultures he found corpuscular formations, as large as leucocytes, which stain well with the common methods, and not with the method for staining spores. They can be seen better by the hanging-drop method.

After some time from these cornuscles grow two forms of bacilli: Large bacilli, sometimes homogeneous, at others segmented, almost colorless, immobile in the hanging drop; small bacilli often associated in pairs in the hanging drop and very movable, which can be stained with the aniline colors but not with the method of Gram.

Both the bacilli, treated with the method of Moeller, show sporulation, central in the small and terminal in the big ones, and the spores in the old cultures are found free.

The study of the morphology of the bacilli requires further experiments; but as the author obtained the same result with articular and pleuritic fluids and with blood only in the media so prepared and not in the common ones, he is inclined to believe that the bacilli are the specific agent of acute articular rheumatism, which seems to be a general infectious disease with many local manifestations.

M.

Ischochymia

Dr. Max Einhorn concludes a paper on the above subject (*Med. Record*, Vol. LI, No. 24) with the following summary:

1. In the vast majority of prolonged disturbances in the transportation of chyme from the stomach into the intestine, a narrowing of the pylorus exists.

2. The earliest and at the same time most

important sign of pyloric stenosis is ischochymia; the dilatation of the stomach which is met with, and which is often so considerable, does not develop until later, and besides may in exceptional cases occur in the presence of an adequate prochoresis.

3. Ischochymia produced by a malignant neoplasm at the pylorus always demands an operation (gastro-enterostomy, eventually pylorotomy).

4. In cases of ischochymia dependent upon a commencing benign pyloric stenosis (or ulcer in the vicinity of this orifice), or a relaxation of the muscular coat of the stomach, an effort should first be made to afford relief by palliative measures. If this is not successful, then a pyloroplastic operation or gastro-enterostomy should be performed.

5. Ischochymia due to a benign markedly developed narrowing of the pylorus (in these cases the pylorus can usually be felt as a small tumor) demands early resort to an operation (pyloroplastic procedures, if the stricture is not too small and if the adhesions are not too numerous, otherwise gastro-enterostomy).

R.

The Treatment of Cerebral Hemorrhage

Dr. Byrom Bramwell, in an article on the above subject (*Ther. Gaz.*, Vol XXI, No. 11, p. 763), says that during the attack we must do all in our power to diminish the activity of the cerebral circulation. For this purpose the head and shoulders should not be lowered, but raised, an ice-bag should be applied to the head, and warmth to the lower extremities; leeches may be applied behind the ears. Venesection (or bleeding from the temporal artery) is distinctly indicated in cases in which the face and neck are turgid, the pulse full and hard, and the left ventricle hypertrophied. Where the opposite conditions prevail, or where the patient is old and debilitated, bleeding is contraindicated. With tying the carotid on the side of the hemorrhage, as recommended by Horsley, the author has had no experience. Where bleeding is for one reason or another not employed, croton-oil—from one to two drops—and an enema should be administered. The application of a blister to the nape of the neck is not looked upon with favor, as counter-irritation at this stage can hardly do any good. During the stage of coma we have several important indications to meet. The bladder must be watched; if there is retention of the urine, the catheter should be used regularly; if there is incontinence, every precaution must be taken to keep the patient dry and clean, to prevent bed-sores. The hot-water bottles must not be too hot, as on account of the diminished

resistance of the skin, blisters and burns are much more easily produced than in a healthy individual. The vital powers of the patient must be supported by proper nutrition and cardiac tonics and stimulants, if necessary. Avoid giving anything likely to produce vomiting, as the straining may reopen the ruptured vessel. The food is therefore best administered by rectum. Alcoholic stimulants should be withheld, but cardiac tonics, like digitalis, may also be given by rectum, or strychnine may be administered hypodermically.

As during the stage of coma, mucus, saliva, etc., are likely to accumulate in the mouth and pharynx and thus increase the danger of death from asphyxia, the patient must frequently be turned from side to side, and the mucus, etc., removed mechanically.

As the patient recovers from the stage of coma, our endeavor must be to prevent and subdue the possible secondary cerebritis. The rest must be absolute; small quantities of milk and water may be given by the mouth, but the rectal feeding is still best continued. Potassium iodide is now commenced, 5 grn. three times a day.

Should cerebritis develop—indicated by a rise in the temperature, a return of the coma, headache, muscular twitchings, etc.—a brisk purge should be given, an ice-bag should be applied to the head, and potassium bromide alone or in combination with chloral should be administered (the potassium iodide is still to be continued). If the pulse becomes very quick, feeble, or intermittent, strychnine, digitalis, and strophanthus should be given; if on the contrary it is of high tension, heart-depressants like aconite and sodium nitrite may be indicated. As soon as the symptoms of inflammation pass off, the potassium bromide and chloral should be discontinued.

During this, the first stage of convalescence, the potassium iodide (advantageously combined with a small dose of ammonium carbonate or tincture of nux vomica) is to be continued and great attention is to be paid to the condition of the bowels and bladder. Gentle massage is very useful, but stronger measures, such as Faradism, attempts at voluntary movements, etc., are to be delayed until a later stage. The constant current is not recommended. To counteract the tendency to contractures, passive movements, especially of the fingers, wrists, and elbow-joints should be practiced.

When there is reason to believe that the acute changes have subsided—i. e., at the end of six or eight weeks—the patient should be advised to practice voluntary movements, diligently and persistently; the

author considers this of inestimable value in all cases of hemiplegia.

When there are too great irritability of the muscles, and an exaggerated reflex action, give potassium bromide or hydrobromic acid; where there is considerable atrophy of the muscles, electricity and strychnine should be administered; where both conditions coexist, give a combination of the bromides with strychnine.

As it is practically certain that in a man who has had a stroke of apoplexy, another attack will follow sooner or later, if the patient only lives long enough, we must do all in our power to delay the arrival of that second attack as long as possible. The patient must be made to understand his position thoroughly. The blood-pressure if high must be reduced. The patient must avoid everything sudden: sudden exposure to cold, sudden bodily effort, sudden excitement, mental strain, straining at stool, sexual intercourse, and business worry. He may follow his business, in some cases, if it entails no worry or excitement. The diet should be light and nutritious. A non-nitrogenous diet is best suited to patients who are gouty, nephritic, or arterio-sclerotic. Potassium iodide and sodium salicylate, etc., may be given with benefit. Alcohol is to be completely eschewed, but a small quantity of tobacco may be allowed. R.

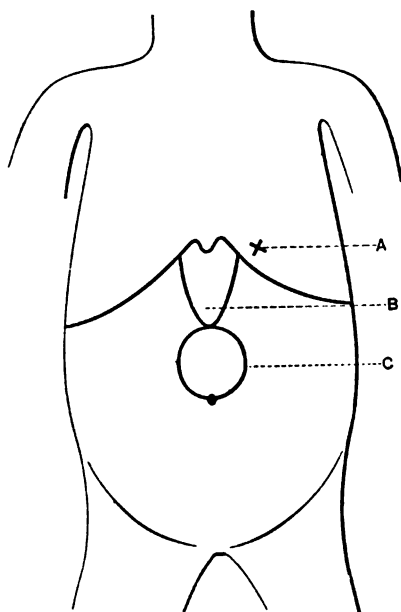
Action of Orchitic Extracts

In a series of experiments upon the action of orchitic extracts registered by means of a specially devised neuro-muscular apparatus, O. Zöth and F. Pregl, in *Pflüger's Archives*, Vol. LXII, p. 335, came to the conclusion that the capacity for work is increased by the action of such extracts, and at the same time there is a parallel decrease in the fatigue as well as a diminution in the subjective sensations of weariness. By the conditions of the experiment the authors believe that suggestion played no part in the results. J.

A Remarkable Case of Displacement of the Heart into the Abdominal Cavity

Dr. L. Holt, in *Med. News* (Vol. LXXI, No. 24, p. 769), reports the following case, to which he says he has found no parallel in medical literature, after a careful search. The child, which, when coming under Dr. Holt's observation, was 5 months old, was born with an abdominal tumor about the size of a goose-egg, partly covered with normal integument and partly with a thin membrane. The greater part of the tumor was evidently intestinal, an ordinary umbilical hernia; but in it there was a small, hard, pulsating body. The recti muscles were widely

separated. In other respects the child was normally developed. The child had gained steadily in weight, and by means of an abdominal pad the umbilical hernia was easily kept reduced. When the pad was removed, the hernial protrusion became about the size of half an orange. The pulsating body was conical in shape, 2 inches long and $1\frac{1}{4}$ inches broad at its base, with which it rested at the ensiform cartilage. The muscles at this point were separated fully an inch. Through the thin covering all the cardiac movements could be easily observed, diastole and systole being almost as well defined as in an animal when the chest is opened. By placing the tips of the fingers beneath the apex, the heart could be lifted until the apex was at the ensiform cartilage,



Showing the relative size and position of the heart. (B) the heart; (C) the part of the abdominal wall where the skin was undeveloped; (A) the point where the murmur was loudest.

the body of the heart disappearing completely behind the sternum. This movement did not seem to cause the child the slightest disturbance. A loud systolic murmur was present and could be heard in front all over the chest.

During the first few weeks the child exhibited general, almost constant cyanosis, but it gradually lessened in intensity, and lately appeared only on exertion. The case appears to the author to admit of no other explanation than that of a large congenital deficiency in the diaphragm, through which the heart became displaced downward to the remarkable degree described. This displacement must have occurred early in the fetal development, since the organ had be-

come so well adjusted to these abnormal conditions that the circulation was fairly sustained. R.

The Cerebellum and Nitrogenous Metabolism

A new line of experimental research relative to the relationship of the influence of the cerebellum upon the exchange of nitrogen in the decomposition of nitrogenous compounds in the human body is taken up by E. Belmondo, in the *Rivista di Patologia Nervosa e Mentale*, 1, No. 2.

He shows in starving pigeons deprived of the cerebella the loss in weight is less than in normal pigeons kept under the same influences. The amount of nitrogenous substances given off by the urine was also markedly decreased.

The results would show that the general trophic centers for general metabolism were in the cerebellum and directly under its influence. J.

A Case of Hematuria, with a Remarkable Causation

Dr. Jacob Frank reports the following case (*Wiener klin. Rundschau*, XI, No. 48, p. 786). The patient, a married woman of 42, always healthy, had noticed blood in the urine for about six months. Internal medication and washing of the bladder proved useless. The hemorrhages at last became so profuse that she became very anemic and entered the hospital. There the author treated her for three weeks with internal astringents and by washing the bladder with different solutions, but to no effect. The patient became more and more anemic, and an ulceration of the bladder-walls was then thought of as the most probable cause. The author decided to examine the patient cystoscopically, but instead of the expected ulceration he found that the mucous membrane of the bladder was covered with an incrustation of uric-acid crystals, with sharp corners and points. They seemed to be deeply wedged in the mucous membrane, which was red and congested. The hemorrhage evidently was produced by the laceration of the membrane by the sharp points of the crystals. The author saw that ordinary washings would have no effect, and he decided to remove them in the same way as a crushed stone is. Under anesthesia a Bigelow evacuator was introduced, and with every aspiration of the pump a great number of crystals came out. This was of course continued until the liquid came away clear. From the moment the crystals were removed no more blood appeared in the urine. No similar case is known in literature. R.

PEDIATRICS

Foreign Bodies in the Esophagus

At a meeting of the Paris Société Médicale des Hôpitaux (*La Méd. mod.*, VIII, No. 94, p. 752) Dr. Variot reported a case of a child who when ten months old swallowed a small metallic plate (2-5 by 1-5 inch in diameter) while playing with a rattle in his mouth. This foreign body remained embedded in the esophagus for a year, when it finally came out by a violent fit of coughing.

During all that time the child had occasional fits of coughing, slight dyspnea, and could take nothing but milk; bouillon and eggs he could not swallow. Another case reported by the same author was that of an infant 8 months old, who swallowed an O'Dwyer tube. It gave rise to no disorders, but the x-rays showed that it was imbedded in the duodenum. At the same meeting Dr. Rendu reported the case of a boy of 10 years who swallowed a coin, which, as the skiagrams showed, became arrested at the middle of the esophagus. The only symptoms were occasional attacks of cough and dyspnea. R.

Incontinence of Urine in Children

Incontinence of urine, says Dr. J. A. Coutts (*Treatment*, Vol. I, Part 1, No. 13, p. 289), may be associated with many and varied morbid conditions, in which it plays a very unimportant part. In some instances it may be the first symptom to call attention to such serious disorders as diabetes, calculus, hydronephrosis, and others. In nocturnal epilepsy, incontinence of urine may furnish the only evidence of past attacks.

In infancy, incontinence of urine is physiological and is due to the urinary reflex being as yet not under the control of the brain. Its persistency beyond infancy is probably owing to imperfection of control unless it be referable to bad habits and poor training.

In treatment, the ordinary routine practice of awakening the child at stated intervals to micturate is mentioned and commended. This simple procedure will cure the vast majority of cases. In addition to the last, restricting the liquids in the child's dietary during the latter hours of the day seems credible to all.

However, in obstinate cases, if on examination the urine presents a high specific gravity and a high degree of acidity, then instead of limiting the liquids, the author advises that trial be made of encouraging the child to drink freely toward the end of the day. In a few cases by this reversal of the

common practice signal success has been scored.

Of drug treatment belladonna takes first rank. But that belladonna often fails is admitted by all. Some of these failures doubtless arise from the method commonly pursued by giving the drug in divided doses throughout the day. A much more efficient plan is to give one single dose in the evening, and to increase this gradually every four or five days. In this way a large single dose can be gradually worked up to, and if the incontinence ceases, can be gradually lessened until the drug is finally abandoned. Belladonna cannot be fairly said to have failed till this method has been tried. Of other drugs the author ranks lycopodium first. While belladonna acts by paralyzing the detrusive muscular fibers of the bladder, lycopodium is stated to have a more selective sedative action on the vesical mucous membrane. The author claims lycopodium successful in numerous instances where belladonna has entirely failed. The method advised is to give twenty drops of the tincture three times a day to a small child, and work up gradually until doses of a dram are given at the corresponding times. Lycopodium has been claimed by some as almost a specific in incontinence of urine, but while it is not that, it is certainly deserving of more extensive trial.

Bromide of potassium is mentioned as being of benefit in those cases in which the act of micturition ensues when waking is imminent or actually takes place. Here the beneficial action lies no doubt in its hypnotic effect rather than in any other action it may have on the nervous system. Strychnine is useful when the incontinence is accompanied with anemia, lassitude, and other departures from the normal health. Then a combination of iron and strychnine is of service.

Of other drugs, such as opium, chloral, etc., the author pleads ignorance.

When drugs fail there are still other measures that may prove of service in obstinate cases. It has been noticed that in many instances the child retains his urine while lying asleep on his side, but that as soon as he turns upon his back emission of urine takes place. The child can be prevented from turning on his back by fixing an ordinary bobbin over the lower spine by means of strapping. With this arrangement, whenever the child attempts to turn on his back, the bobbin either wakes him up or else he returns to his former position on his side. In either case the urine is retained in most instances.

Circumcision in incontinence of urine, without phimosis, is uncalled for. P.

NEUROLOGY AND PSYCHIATRY

Hereditary Neurotic Conditions With Crime

Dr. Henry L. Winter, in a contribution to the *N. Y. Med. Jour.* (Nov. 6, 1897), draws attention to a case of epilepsy in a subject who subsequently committed a crime and was sent to the Kings County Penitentiary. It was possible in this case to obtain a family history, of which crime was the natural result. After discussing the case, the author, by supposing the subject's crime to have been of grave import—a murder—draws a comparison between his hypothetical case and the Barbella case.

Directing the attention to the medico-legal aspect of the case, Dr. Winter explained how, had murder been done, the result of the trial, if conducted in the manner of the above-mentioned case, with "experts" arrayed against each other, must be acquittal of the murderer, even though no doubt existed as to the actual perpetration of the crime.

The author says: "Instead of all this, if the subject were placed under observation, in a suitable place, of a man, or preferably, of a number of men of recognized ability, and a careful study of his case in all its details made and rendered to the court at the time of trial, the verdict of the jury could be based upon its purport, and a thoroughly scientific basis for the conduction of such trials would be reached." U.

Peripheral Neuritis.

Dr. Alexander McPhedran, in *The Quarterly Journal of Inebriety* (Vol. XIX, No. 3), speaks of this subject and cites six cases.

Many cases of mild neuritis pass unrecognized, being looked upon as rheumatism, to the posion of which, in many cases, the occurrence of neuritis is due.

Peripheral neuritis may be isolated, confined to one or a few nerves; it may be multiple, symmetrical in its distributions, affecting the nerves of all the extremities. In isolated neuritis, the disease begins in the nerve-sheath, constituting a "perineuritis," the inflammation extending to the nerve-fibers later. In the multiple forms, the nerve-fibers themselves are the seat of the primary change, the sheath becoming affected later.

Alcoholic peripheral neuritis is the form most often met with, but not so frequently in this country as in Europe, doubtless because more stimulants are used by the

women in Europe. There the women are given to regular indulgence in strong spirits, usually secretly. Such drinking appears to be more productive of neuritis than occasional "bouts" of drunkenness. Delirium tremens is common with men, but rare with women, possibly because the men drink beer rather than spirits. In America spirit-drinking is more common and delirium tremens results oftener than neuritis.

Dr. McPhedran details six cases, two alcoholic, one lead, two arsenical, and one occurring during the course of pernicious anemia. The last case is of interest as being the only one we had noted in medical literature occurring as the (evident) result of the condition of the blood in this disease.

The onset of the disease in the six cited cases was irregular; in one alcoholic it resulted from years of continued "tippling," while in the other it followed a debauch and the exposure therein. In the lead case it was the result of plasters applied over the parotid region for three days; the neuritis beginning the third day. One of the arsenical cases resulted (about one week after the poisoning) from a quantity of "rough on rats," taken accidentally, and the second case from long-continued doses of Fowler's Solution. All were typical cases. The duration of the neuritis was from three to five months.

In the treatment of this disease, the first duty is to remove the cause. The cause is easily demonstrated when, as in most cases, it is alcohol, lead, or arsenic. For the neuritis we have no specific remedy. Anodynes may be required to relieve the pain. Strychnine is regarded by some as a specific, and satisfactory results are reported from its use, especially by subcutaneous injection 1-20 to 1-30 grm. twice daily.

As soon as tenderness has abated, massage and baths will prove useful in hastening the removal of excrementitious matter.

With few exceptions the prognosis is good; recovery will be long delayed in severe cases, and in a few acute cases a fatal termination occurs within a few days or weeks.

Bad cases grow worse for weeks or months and then remain stationary for a time. Complete recovery requires several months. U.

Acute Coryza

The following formula is recommended in the *Allg. med. cent. Ztg.*, to be used as a douche in acute coryza:

Ichthyol.....	1.0 (15 grn.)
Ether.....	1.0 (20 m.)
Alcohol.....	1.0 (20 m.)
Water....	150.0 (5 fl. oz.)

SURGERY

Final Results of Operations for the Radical Cure of Hernia

Roux, Lausanne, Switzerland (*Rev. méd. de la Suisse*, Vol. XVII, July, 1897), has given a careful report of 324 cases which, with but one exception, were traced beyond two years. This is the largest series of cases traced beyond two years after operation, and furnishes excellent data upon which to base conclusions as regards final results.

Two hundred and seventy cases remained cured, while 54, or 16.7 per cent., were found to have relapsed. Two hundred and eighty-eight cases were inguinal hernia; of these, 48, or 16.7 per cent., relapsed. Of 22 cases of femoral hernia, 6 relapsed, or 27.3 per cent. Fourteen cases of umbilical hernia showed no relapses, or 100 per cent. cures. The entire series of cases were operated upon between 1890 and the middle of 1894. It is interesting to study the cases with reference to the age of the patients at the time of operation.

Ninety-three cases were operated upon under 10 years of age, with 5 relapses, or 5.4 per cent.; 51 were operated upon between the ages of 10 and 20, with 5 relapses, or 9.8 per cent.; 65 cases were operated upon between the ages of 20 and 30 years, with 10 relapses, or 15.4 per cent.; 29 were operated upon between 30 and 40 years of age, with 10 relapses, or 34.5 per cent.; 76 cases were persons over 40 years of age, of these 24 relapsed, or 31.6 per cent. This analysis shows that the percentage of final cures bears a direct proportion to the age of the patient. The younger the patient the better the result. The cases over 40 years of age show six times as many relapses as those under 10.

As to the method of operation, 235 cases were operated upon by the method of Ferrari, or a slight modification of this method, which consists, in brief, of a free dissection of the hernial sac and high ligation beyond the neck. The anterior pillars are then sutured with silk without transplantation of the cord.

Fifty-three operations only were operated upon by Bassini's method, that is, it cannot be strictly called Bassini's method, as the author has introduced modifications of his own, substituting the purse-string suture for the interrupted sutures employed by Bassini. Silk was used in all cases.

Of the 53 cases operated upon by this method, 19, or 35.8 per cent. relapsed. From these results the author draws the

conclusion that the suture of the anterior pillars is by far preferable to Bassini's method.

A study of the wound-healing is also of much interest. Two hundred and fifty-seven cases healed by primary union, with 39 relapses, or 15.2 per cent.; 67 cases healed by secondary union, with 15 relapses, or 22.4 per cent. These results confirm the opinion held by most surgeons at present, that primary union is of great importance in securing good and permanent results. Of the 288 cases of inguinal hernia, there were 60 cases that suppurated, or 20.9 per cent.

Out of the 235 cases operated upon by the method of suturing the anterior pillars, 48 suppurated, or 20.4 per cent., while out of the 53 Bassini operations 12 suppurated, or 22.6 per cent. In 12 cases, more or less atrophy of the testicle was noticed—9 after suture of the anterior pillars, 3 after Bassini's operation. The unusually large number of relapses following Bassini's method would seem to show that the author's modification could hardly be called an improvement upon Bassini's original operation; and the 20 per cent. of cases that healed by suppuration as compared with the very small percentage obtained by other surgeons who have used an absorbable suture, would seem to show the superiority of the latter.

Treatment of Wounds of the Liver

Dr. L. Walton has had under his treatment five cases of wounds of the liver—two by firearms and three by a cutting instrument—and reviews the entire subject in *La Bel. méd.*, No. 29, 1897; ref. in *Rev. de Thérap. méd.-chir.*, 64e Année, No. 20, p. 696. The two great dangers are hemorrhage and infection. Immediately after the accident, if there is any indication of internal hemorrhage, small pulse, increasing dulness on percussion, etc., an exploratory laparotomy should be done. The incision may be median, lateral, or crucial, but it should be large enough to admit of a thorough examination of the liver and neighboring structures by the eye as well as by the finger.

For the control of the hemorrhage—a most terrible accident in this region—we have three means: the thermo-cautery, the tampon, and the suture. The thermo-cautery is uncertain; Zeidler has succeeded with it in two cases, but it proved ineffectual in the hands of Broca.

The tampon may be utilized in grave cases, where we must make haste, also where the wound is too deep or irregular to

be sutured, from two to three yards of iodoform gauze may be required.

The suture is the method of election. It should be passed quite deeply through the hepatic parenchyma, so as to avoid tearing. The needles should be rather blunt and threaded with thick catgut. According to Kousnetroff and Pensky [De la suture du foie, *Rev. de Chir.*, 1896], the hepatic vessels themselves may be tied, after being denuded of parenchyma.

In wounds of the gall-bladder, if the tear is small, perform a cholecystorrhaphy; if large, a cholecystectomy; the latter operation should also be done in case the cystic duct is cut.

If the ductus choledochus communis is wounded, a regular cholecystenterostomy must be done.

Finally, the statistics are quite favorable. Out of fifty cases of operative interference in hepatic wounds, thirty-six resulted in a cure, and fourteen ended fatally. In Carnot's case, the fatal termination was brought about by the continuous hemorrhage from the trunk of the portal vein, the wound of that vessel not having been noticed. R.

Suppurative Osteo-myelitis

Dr. W. G. Young (*Med. Mirror*, Vol. VIII, No. 7) summarizes as follows:

1. That suppurative inflammation of the bone-marrow is most frequently met in children and young adults, seldom after full development of osseous system.

2. Senn says: "The essential exciting cause, both acute and chronic, is the presence of one or more varieties of pus-microbes. Direct extension of a suppurative lesion through the medium of lymphatic vessels or nerve-sheaths may be possible, but such a direct connection between a peripheral suppurating focus and a central osseous lesion of a similar nature can seldom be demonstrated."

3. The micro-organisms reach the bone-tissue through the circulation, and lie dormant until something acts as an exciting cause. This may be traumatism, a sudden chilling of the body, or anything that lowers the resisting powers of the tissues and prepares a condition in which the specific germs develop in full activity and produce an active malady.

4. The site of disease is generally near epiphysis of the long bones.

5. The cocci found in the abscesses are the *Staphylococcus pyogenes albus* and *aureus*, and in some cases *Bacillus tuberculosis*.

6. The disease is ushered in with a chill and other symptoms indicative of a suppurative affection. Pain, tearing and throb-

bing in character, is an early and most constant symptom. With the perforation of bone, there is a cessation of pain; then, with an increase of the accumulation of pus, pain occurs again, the pus produces sufficient pressure, destroys the tissue, and opens on the skin.

7. The limb which is the seat of the osteomyelitis completely loses its function.

8. Dr. Senn concludes the results of early operation as follows: "1. Removes pain. 2. It enables the surgeon to remove the local cause of the disease completely or in part. 3. It prevents extensive necrosis. 4. It is the best prophylactic measure against septic anemia and pyemia. 5. It prevents extensive destruction of the periosteum and other contiguous parts. 6. It cuts short the attack and expedites recovery." V.

The Treatment of Penetrating Wounds of the Abdomen

Vulliet (*Rev. méd. de la Suisse Rom.*, June and July, 1897) has analyzed 335 cases of penetrating wounds of the abdomen, published since 1890. Of these 77 were treated by the expectant method and 258 by operation. From the study of these cases the writer has drawn the following conclusions:

1. Given a penetrating wound of the abdomen, whether from a stab or gun-shot, the wound should be enlarged sufficiently to determine whether or not the peritoneal cavity has been entered. If penetration has occurred, exploratory laparotomy should be immediately performed.

2. The symptoms alone are insufficient to establish the presence or absence of perforation of the bowel.

3. Positive signs of perforation of the intestine, such as a fistula or appearance of the bullet per rectum are very rare.

4. Exploratory laparotomy does not involve any danger.

5. Statistics as well as experiments on animals show that spontaneous healing of intestinal perforations without septic peritonitis rarely occurs.

6. By prompt operative interference, instead of waiting for symptoms, the surgeon tries to prevent the occurrence of peritonitis; the latter being usually fatal, operation after its onset is generally of no avail.

7. Deaths caused by the gravity of the lesions should not be ascribed to the operation, long and difficult though it be. It certainly has saved many a life that would have been surely lost without operation. There has been considerable improvement of late in the results obtained from laparotomy.

8. If a patient has not developed abdominal symptoms when seen first forty-eight hours after the infliction of the wound, it

may be assumed almost with certainty that no perforation of the intestine has occurred. If symptoms of peritonitis are present, there is but one chance of recovery left, namely, abdominal section and washing out of the abdominal cavity. Deaths in such cases are the result of expectant treatment and not of operation.

9. One should not hesitate to operate in the presence of shock for the reason that a severe shock is more likely to be due to hemorrhage which can only be controlled by operation. Stimulants and intravenous saline injections should be resorted to freely.

10. As a rule the incision should be in the median line and long enough to make the exploration easy and rapid. The abdominal cavity should be washed out and drained.

11. The author believes that the above conclusions apply only to civil life, the conditions which render antiseptic precautions possible. In war the experience is still insufficient to make it possible to decide whether an operation or expectant treatment is preferable. C.

Treatment of Burns

Dr. M. B. Werner, clinical assistant in the surgical department of the Philadelphia Polyclinic, states that the clinical records show excellent results of the moist antiseptic treatment for burns, varying in extent, location, and depth, from a superficial blister to those including muscles and tendinous structures (*The Phila. Poly.*, Vol. VI, No. 44). The treatment is simple and as follows:

1. Place the burned member or surface into a carbolyzed bath of from 2 per cent. to 5 per cent., depending on the age of the patient and the extent of the injured surface. A threefold effect is gained by this, i. e., antiseptis, asepsis, anesthesia.

2. Remove all the acid solution by a second bath in the physiologic saline solution.

3. Dust the entire surface with a powder containing acetanilid (1 part), compound zinc stearate (5 parts).

4. Cover surface with narrow strips of Lister's green protective, or, if economy must be studied, thin gutta-percha tissue can be used instead.

5. Place wet sublimated gauze ten to twenty thicknesses over and around the surface, followed by ordinary bandaging.

The subsequent dressings differ only in one or two points from the first, as stated above. The carbolyzed bath is replaced by one of either the saline solution, or a weak solution of mercury bichloride, followed by a spray of hydrogen dioxide which

will aid in removing all the pus and loose dead tissues—after this, the surface is dusted with the powder, and protective strips, gauze, and bandages are applied. These dressings are changed as often as needed, the extent and depth of the burn making its own rule. B.

A Case of Traumatic Hernia of the Lung

Dr. Géza v. Nagy reports the following case in the *Centralblatt f. d. ges. Therapie* (XV, No. 10, p. 589). In a brawl a man was stabbed in the chest with a knife. When the doctor saw the patient on the next day he found a wound between the first and second ribs, about 1 1-5 inches long, through which protruded a piece of lung the size of an egg, of a grayish black, in spots gangrenous and covered with pus. The patient was feverish and very weak from the loss of blood. The doctor put a catgut ligature around the gangrenous portion, cut it off, swabbed the stump with 1:1000 bichloride solution, and pushed it back into the thoracic cavity. The wound was then sutured and covered with sublimate gauze. The first four days the patient had a temperature of between 102 and 104.2° F., but on the fifth day it became almost normal, and on the eighteenth day the patient was discharged as completely cured. R.

The Use of the Phonendoscope in Surgery

Van Arsdale (*Polyclinic*, Aug.) refers to the practical application of the phonendoscope, in fractures especially. For example, when there has been much violence brought to bear on the arm, resulting in great swelling and perhaps in the fracture of the radius, he has been able to demonstrate before the class by means of the phonendoscope that the ulna was intact, a result which under the circumstances could only have been made out by placing the patient under anesthesia, or by the use of the x-rays. Again, in cases where crepitations cannot be elicited, and yet abnormal mobility exists, the phonendoscope may prove that soft tissue is inserted between the ends of the fragments. It is also of some value in the early diagnosis of knee-joint effusions, one hearing the fluid in the knee-joint, set in vibration by friction with the finger, not only when the pin is placed as near as possible to the capsule of the joint, but also when it is placed on the ligamentum patellæ. Tumors having varying density from the neighboring tissues may be readily outlined. In dislocations it is of occasional value. In the study of aneurismal and abdominal tumors it is of the most practical value. L.

EYE, EAR, NOSE, AND THROAT

The Value of Weak Lenses in Moderate Errors of Refraction

Dr. Albert F. Bulson (*Amer. Jour. of Ophth.*, May, 1897) tells us that not every error of refraction demands correction by properly adjusted glasses any more than every weak ocular muscle demands a tenotomy, for every case must be carefully studied and due discrimination used. Health, temperament, occupation, and environment must play an important part in the determination of the character of treatment to be instituted, and in estimating the value of lenses in any given case we must take into consideration the requirements of the patient. Thus, a person following an avocation which demands considerable active exercise, either in or out of doors, will seldom, if ever, be benefited by correction of a moderate error of refraction, as this class of individuals is usually in good health, and the eyes being not unduly taxed the reserve power of accommodation is maintained.

The same may be said of any one leading a sedentary occupation, which does not call for more than ordinary use of the eyes. But, on the other hand, those individuals whose avocations require prolonged use of the eyes, or the highest acuity of vision, will eventually find even a moderate refractive error the immediate cause of inconvenience and discomfort. If the individual be suffering from impairment of general health, or is of a nervous temperament, the symptoms will not only be more aggravated, but a less amount of ametropia is required to produce trouble.

The limitation of the use of weak lenses will depend upon:

1. Occupation.—Close application to any work demanding high acuity of vision tends to exhaust the reserve accommodative power and bring on direct or indirect symptoms of eye-strain, and but moderate refractive errors are necessary in some instances to produce trouble. Engravers, draughtsmen, decorative painters, seamstresses, etc., are examples.

2. Temperament.—The nervous individual is more susceptible to the influence of slight irregularities in vision than the phlegmatic. Many seamstresses, women stenographers, china-decorators, etc., belong to this class.

3. Environment.—Individuals following occupations that demand excessive use of the eyes in poorly lighted rooms—as inside

office work—or who work wholly by artificial light, or work about objects which give much reflection are particularly apt to feel the influence of moderate accommodative errors. To this class belong certain book-keepers, newspaper-men, type-setters, and students.

4. Health.—Any impairment of health generally has its debilitating effect upon the eye-muscles and hence many convalescents or semi-invalids, even with but moderate errors of refraction, in attempting to pass the time by reading, soon discover symptoms of "eye-strain" which in many instances may be relieved by properly adjusted glasses. Consumptives, victims of spinal lesions, and others of similar constitutional debilities come under this division. G.

Hematoma of the Ear

Dr. J. Justin McCarthy has published a report of an exceptionally interesting case of hematoma of the ear, in which the *Staphylococcus pyogenes aureus* was found (*Maryland Med. Jour.*, Vol. XXXVII, No. 3). An old patient, a case of organic dementia, developed ear-symptoms about two weeks ago. The auricle of the left ear was reddened and painful to the touch. A marked hematoma made its appearance, and as it still continued to enlarge it was decided to operate.

The night before the operation applications and antiseptics were used and the same technique was carried out at the little operation. Before opening the tumor, two culture-tubes, one of agar and the other of gelatin, were secured, and stab-cultures by means of a platinum needle were made from the deep recess of the opened wound immediately after the tumor was cut.

The growths were indeed a surprise, and fulfilled in every particular the bacteriological laws assigned the *Staphylococcus pyogenes aureus*. The usual microscopical examination, staining the specimen with the basic stains, were highly satisfactory, proving beyond a doubt that the staphylococcus was present. In this case there was no coagulation. The auricle improved and the wound healed rapidly. B.

Hypermetropia Affecting Speech

De Haas, *Annales d'Oculistique* (Tome XVII, p. 56, 1897), has observed that extreme hypermetropia is prejudicial to speech. In youth the effort made to see distinctly at a short distance creates difficulty in finding the right word, and this difficulty persists during the whole life. H.

DERMATOLOGY AND SYPHILOLOGY

Eczema Treated with Picric Acid

Brousse recommends (*Jour. de Méd.*, Oct., 1897) the employment of picric acid in some cases of eczema, the indication being an acute attack, particularly should there be any tendency to epidermic ulcerations, and in the seborrheic or impetiginous eczema of children. But the method is contraindicated in chronic cases, and generally in those accompanied by epidermic thickening, though, should there be much itching in the latter, it may prove beneficial. The method of employment is as follows: A saturated solution of picric acid is painted on the affected parts, the application extending slightly beyond the limits of the eczematous area, then covered immediately with absorbent wool, or it may be with a compress soaked in the same solution, and over which the wool is applied. This is allowed to remain on for about two days.

The skin should previously be cleaned with some antiseptic, so that no suppurative organisms may be allowed to remain in contact with the diseased parts during the time that they are covered by the wool dressing. The staining due to picric acid may subsequently be removed by washing in a saturated solution of lithia carbonate.

G.

Atmospheric Influences in Cutaneous Diseases

Dr. William Thomas Corlett, in the *American Journal of Dermatology and Genito-Urinary Diseases*, considers the various affections of the skin apparently produced by changes of the season.

The common affections during the spring are those which arise from errors in diet. Pustular affections are also frequently encountered, because at this season the skin is moist, relaxed, and more liable to be covered with decomposing excretions, making a suitable soil for the development of pus-organisms.

During the summer the skin is at its greatest activity, heat-rash, eczematous inflammations and irritating skin-diseases are more frequently seen. Chronic affections such as psoriasis are usually better than in winter, except, perhaps, lupus.

In the autumn, eczema and psoriasis take on renewed life. The affections of the winter season deserve special consideration. Foremost in this group is winter-itch or pru-

rigo hiemalis. This affection comes at the first approach of frost and disappears in the spring, and is characterized by severe itching. There are usually two paroxysms, one after undressing and another toward morning. The regions involved are those coming most in contact with the clothing.

The treatment of this disease is, first, the clothing should be moderately warm, and of a soft, smooth texture, preferably of cotton gauze or silk. Second, a soft unctuous condition of the skin should be induced. To this end, Turkish baths once a week, followed by brisk rubbing into the skin of some bland oil, are to be recommended.

The following prescription is to be kneaded into the skin night and morning:

Glycerin	½ to 1 oz.
Lanolin.....	.4 oz.
Essence Lavender.....	5 drops,

Resorcin or carbolic may be added to the above, in the strength of 30 grn. of the former, or 20 of the latter to the ounce. Internally the administration of pilocarpin sometimes gives immediate relief, and 5-grn. doses of ichthyol have been followed by good results. In obstinate cases, a change to a warmer climate is advisable. W.

Chronic Urticaria Treated with Sodium Nitrite

In the *Pac. Rec. of Med. and Surg.*, Sept., 1897, Dr. John P. Sawyer gives his experience in the treatment of chronic urticaria by the use of nitrite of sodium. The patient was a young lady who had been afflicted with urticaria during the summer season for many years. Many treatments had been tried, but nothing had brought relief. Not discovering any intrinsic cause for the condition, and regarding urticaria as an angio-neurosis, he prescribed 1 grn. doses of sodium nitrite three times daily. The following day the patient experienced her first complete relief from the difficulty, and during the warm weather of the entire season she remained practically free from the disease. He offers no explanation for the relief afforded by the remedy than through its well-known effect upon the peripheral circulation.

Encouraged by success in this case he prescribed it for another one with the same general effect. The withdrawal of the remedy, in each case, was followed by a reappearance of the urticaria; on readministering the drug the disease subsided. Although this remedy was used in only two cases, still the evidence is so strongly in its favor that it would deserve trial in this persistent and intensely annoying disorder.

W.

OBSTETRICS AND GYNECOLOGY

Gonorrhea in Women from a Medico-legal Standpoint

Neisser (*Medical Record*, Vol. LI, No. 12) discusses this important question with especial reference to the importance of the diagnosis, which, he affirms, cannot be positively made without the aid of the microscope. A secretion may be present which bears an exact resemblance, microscopically, to gonorrheal pus, but contains no cocci, or in fact any bacteria whatever. Moreover, it is impossible to determine the time at which infection occurred, since its course differs so widely in different subjects. When the cervical canal is affected, but not the urethra, symptoms may be absent. The writer denies the truth of the statement that obscure, acute gonorrheal infection in the female may cause a chronic discharge in the male; the gonococci always possess the same virulence, and when they come in contact with healthy mucous membrane produce an acute inflammation. This explains the violent gonorrheal attacks in newly married women whose husbands regard themselves as entirely cured, and also the similar acute infection of men after intercourse with women whose physicians had discharged them as free from disease. In both instances the secretion is found to contain a few scattered cocci, which are found only after a long search.

In the chronic cases the characteristic appearance of the gonococci within the cells is often wanting, and the culture test is frequently unsatisfactory. In short, the microscopical diagnosis is often exceedingly difficult. Still, this is the only one which should be admitted as positive in a court of law.

In the case recorded by Simon, of a man, aged 37 years, who was accused of rape and of having infected the little girl with gonorrhea, though an examination of the greenish pus which escaped from her vagina showed the Neisser cocci, careful and repeated examinations of his urethra showed an entire absence of any abnormal secretion, though he had had gonorrhea fifteen years previously, which had been promptly cured. A bacteriological examination of the urinary sediment demonstrated the presence of numerous epithelial cells containing bodies which somewhat resembled gonococci, but which, when subjected to staining by Gram's method, failed to respond to the ordinary test. Hence the inference that, when the

question of the specific nature of an old urethral discharge is to be decided, too much reliance should not be placed on the bacteriological evidence. Even when cocci are demonstrated in the vaginal secretion, the origin of the infection, whether direct or accidental, may remain in doubt. L.

May a Nephritic Mother Nurse Her Child?

Not only she may, but she should, says Dr. M. Gamulin (*Le Scalpel*, May 30, 1897). As a rule physicians do not allow women, with any form of nephritis, to nurse their children.

It is considered especially inadmissible in patients, whose diet is restricted to milk exclusively. The author has made observations on 158 women from Bandede's clinic, who, while suffering with different forms of nephritis, nursed their own children. The latter developed as normally and increased in weight as regularly as the children whose mothers were healthy.

To the mothers the nursing was not only not injurious, but it seemed to do them good, as the exercise of this physiological function usually does. Only in cases of progressive albuminuria, and where the child loses in strength and weight, the nursing should be discontinued. [In a case under our treatment, where nursing was persisted in against our advice, the albuminuria became greatly aggravated.] R.

Precocious Menstruation

F. J. Clendinnen (*Inter. Med. Jour.*, ref in *Amer. Gyn. and Obs. Jour.*, August, 1897), reports the following case, with skiagram demonstrating premature osseous development: The mother states that the child, now 8 years of age, began to menstruate between 3 and 4 years of age, and has been regular every month since, excepting two. Menstruation lasted three days, two diapers being used daily. Child's height is 4 feet 8½ inches; weight, 81 pounds. She looks like a child of 11 or 12 years. Her breasts are developed as fully as those of a girl of 17 or 18. Hair on pubis is fully developed and also that of the axilla. The skiagram shows the proximal epiphyses of the phalanges, and the distal ones of the metacarpal bones all completely united to the shafts, and the ossification of the carpal bones also complete, as is also the sesamoid bone. There is a faint trace of the epiphyseal line at the proximal end of the thumb metacarpal, and the lower epiphysis of the radius is united on its outer side. The appearances are just those seen in the skiagram of the hand of a female 18 years of age. L.

BACTERIOLOGY AND PATHOLOGY

The Structure of Bacteria

In an editorial with the above title the *Brit. Med. Jour.* says: Differences of structure in normal bacilli are very hard to detect, for the whole protoplasm appears homogeneous; it is therefore necessary to study them either when they have become old and are commencing to disintegrate or with the aid of coloring reagents. The question then arises as to how far the appearances then presented may be taken as indications of the normal structure. The plasma of the bacteria is a gelatinous substance readily coagulating with the aid of heat or reagents. This has been shown by Butschli, who has actually succeeded in squeezing out this gelatinous material from its envelope. The ease with which the jelly coagulates under different circumstances is one of the main sources of difficulty in its differentiation.

One set of observers, among whom A. Fischer and Migula are conspicuous, regards a bacillus as consisting of a capsular membrane containing a mass of protoplasm with a central vacuole but no nucleus. The vacuole, however, depends too much upon the viscosity of the protoplasm and therefore upon external conditions to have, in Duclaux's opinion, the importance assigned to it by them. Migula in fact considers that the division of a bacterium is preceded by binary fission of the vacuole. Butschli, on the other hand, has studied bacteria and larger, but almost as lowly, fungi, the cyanophytes, by faintly coloring them with acid hematoxylin. He distinguishes a bacterium into three parts, a membrane which does not take the stain at all, a faintly staining peripheral zone, and the much-discussed deeply staining central body.

Butschli considers this central body to be, if not a nucleus, at least allied to one in its nature; he has twice, in the case of *Beggiatoa*, been enabled to detect karyokinesis in it. No difficulty is found in accepting this view as regards the cyanophytes, in which, although large, the central body does not entirely preponderate; but in the smaller bacteria it is found to occupy the whole membrane, the protoplasm being reduced to a mere semilunar thread at each end. This assumption that a bacterium consists practically entirely of a nucleus, with the nutritive protoplasm reduced to a minimum, has not been generally accepted by bacteri-

ologists. Metchnikoff has well compared it to the condition in embryonic cells and in myeloplaxes—that is, where nutritive activity is greatest. Duclaux suggests that protoplasm is, so to speak, the kitchen for the nucleus, which, when in a very active state, can take in its food raw. It will possibly be found that when storage of starch, etc., takes place in a bacterium, protoplasm may be developed around the nucleus as a "tissue of reserve."

Another most interesting question is as to the histology of spore-formation. Babes was the first to demonstrate in a number of bacteria, and particularly in that of diphtheria, minute particles taking a violet or reddish stain with methylene-blue, and so standing out in sharp contrast to the blue ground. They were most numerous at the center and extremities of the rod, as if associated with division and growth; he gave the non-committal name of "metachromatic granules." Butschli has described them as mainly occurring in the thin protoplasmic layer already mentioned. Certain of them appear to take part in the formation of spores, and here, again, a difference of opinion has arisen. Ernst described "spore-genic granules" staining with hot, but not boiling, methylene-blue, as appearing in certain bacilli under conditions favorable to spore-formation, and running together in places to give rise to spores. But Bunge pointed out that these granules were present in some bacilli which did not form spores, and absent in typical spore-bearing forms, such as the anthrax bacillus; and, further, that unlike spores they did not resist boiling water. He himself describes granules staining less easily than those of Ernst, which appears to fulfil these conditions; they require treatment with an oxidizing agent before they are capable of taking the ordinary stains.

In the anthrax bacillus three or four rounded granules can be seen, which eventually fuse into an oval spore. These granules withstand the action of boiling water, and in this respect, and the difficulty with which they are stained, agree throughout with the spores themselves. This would seem to show that the difficulty of staining the latter is due to a quality of the material of which they are composed, and not their being enveloped in an impermeable membrane.

One final point remains for solution: To bring the conclusions of Butschli and Bunge into harmony it must be shown, as Duclaux points out, that the granules of the latter are formed by the "central body" of the former. This is an important subject for future observation.

THERAPEUTICS AND PHARMACOLOGY

The Preventive Treatment of Baldness

Basing his treatment on the fact that the hair contains a substance similar to glue and gelatin, Dr. Deichler has administered colloids in different forms, in different affections of the hair (*La Méd. moderne*, VIII, No. 89, p. 705). Together with a tonic régime, he gave the patients bouillons prepared by prolonged boiling of two parts of meat and one part of bones. The bones were frequently replaced by gelatin, or by shavings of deer's horns, which are very rich in ossifying cartilage.

The favorable effect of this treatment is seen first of all in old men: with the improvement in the general condition there is an increased elasticity, a kind of rejuvenation of the skin; there was also a certain diminution in the rigidity of the arteries (which fact induced the author to try the treatment in arterio-sclerosis). In younger persons the action of the colloids showed itself upon the hair very distinctly. The thin hairs became firmer, they acquired a brilliant lustre, the falling of the hair ceased. This favorable influence showed itself in the hair all over the body. The nails also became more brilliant and transparent. Systematically used, this treatment will go far to prevent baldness. At the same time, the hair should be well taken care of, and one of the best ways to do it is to wash it frequently with soap and water. R.

Intra-uterine Injections in the Treatment of Diseases of the Uterus, Uterine Adnexa and Pelvic Peritoneum

Prof. J. Grammati Kati, of the University of Tomsk, has employed in his clinic intra-uterine injections for the conditions enumerated above, with great success (*Centr. f. d. ges. Therapie*, Vol. XV, No. 11, p. 695; abst. from *Vratch*). The solution he employs consists of alumnol, 2.5 (40 grn.); tr. of iodine and alcohol, each 25.0 (6½ dr.). Of this solution he ordinarily employs but 15 minims, which are injected into the uterus by means of a Braun uterine syringe. Where the adnexa are swollen and inflamed, 30 minims are used. He administered within the last three years about 3000 injections, and in no case were there any disagreeable symptoms observed. Only a few of the patients complained of pain, which soon disappeared spontaneously or after the application of a morphine suppository. [We suspect that the Siberian women whom the au-

thor treated are of a coarser and less sensitive organization than our American patients; we would not attempt to use the above solution on one of our patients, without thoroughly cocainizing the uterus.—Ed.] After fifteen to twenty injections the menses cease, and about forty injections suffice to stop menstruation for two to three months and to effect a cure. In acute inflammations the results are especially prompt: the temperature becomes normal, the pains disappear, and the inflammatory exudate becomes quickly absorbed. Chronic pelvic peritonitis and the most obstinate cases of chronic endometritis are completely cured by this treatment.

In chronic inflammations of the adnexa with tumor-like formations, the injections produce a condition which makes an operation either altogether unnecessary, or much easier, as noted above; during the treatment not only the pathological metrorrhagias, but the regular menses cease completely. R.

The Present Status of Serumtherapy in Syphilis

Dr. Arnold Sack gives an historical résumé of this subject in the *Allgem. med. cent. Zeit.* (No. 46, 1897). The first experiments in that line were undertaken in 1891 by Feulard, of Paris, at the instance of Prof. Fournier. He injected the serum from dogs—which, as is well known, are immune against syphilis, i. e., they possess the power to destroy the syphilitic virus or its toxins—subcutaneously into patients in different stages of the disease. Aside from a slight improvement in the general condition, no specific effect was noticed. In 1892 Tommoroli employed injections of sheep's serum and claimed to have obtained brilliant results.

In 1893 Cottwell, in England, reported two cures which he obtained with dog's serum. Istomanoff, in Russia, succeeded in causing a rapid disappearance of the manifest symptoms in sixteen cases by the employment of sheep's serum, but as to a radical cure the result was doubtful. But Kollmann, who experimented with the germs of dogs, sheep, calves, and rabbits, and Mazza, who employed sheep's serum, obtained only negative results.

Pelizzari and Wewiorowsky employed the serum from syphilitics in the secondary and tertiary stages, and Bonaduce that from children with hereditary syphilis, but neither obtained any definite results.

In 1895 a great number of investigators (Richet, Héricourt, Triboulet, Gilbert, Fournier, Jr., and others) experimented with the serum of different animals, chiefly dogs,

but the results were distinctly negative. Prof. Tornowsky and his assistant, Jakorleff, lately experimented with the serum of syphilized horses. Three young healthy colts were inoculated with moist syphilitic papules. The papules were either introduced through a cut or they were rubbed into places, deprived of skin by means of cantharidol plaster, or they were rubbed into an extract and injected subcutaneously. Two horses developed about fifteen nodes along the spinal column; these soon disappeared, and similar nodes formed in the gluteal region, which also disappeared entirely in about four weeks. From these horses about 800 c.c. (25 oz.) of serum were obtained, with which five patients with recent and secondary syphilis, and one patient with gummata were treated. The results were absolutely negative as far as the syphilitic symptoms were concerned; but there were noticed diminution in weight, transient albuminuria, an obstinate urticaria-like eruption, purpuric spots, and a pretty high elevation of temperature (103° F.). Under mercury and potassium iodide the patients improved rapidly. R.

Ichthyol in Mumps

Ichthyol.....45 grn.
Lead Iodide45 grn.
Ammonium Chloride.....30 grn.
Lard1 oz.

Apply to the swollen parts three times daily.

Sometimes vaselin may be used in place of lard, and extract of belladonna may be added with advantage.

Pyrantin

Pyrantin, a compound discovered by Piutti, is chemically the sodium salt of *p*-oxy phenyl-succinic acid. It forms a white powder, soluble in water, and has a sweetish taste (*Centr. Thera.*, Vol. XV, p. 695). Its action is sedative and antipyretic; the reduction of temperature may reach 5 to 7 degrees F. The dose is 1.0 to 3.0 (15 to 45 grn.) a day, and may also be given subcutaneously. It has proved especially useful in inflammatory rheumatic conditions. No bad effects have been noticed, even after the administration of very large doses. R.

Xeroform as an Intestinal Antiseptic

Dr. L. Rynders, of the medical faculty of Nancy, has subjected xeroform to a thorough investigation, chemical, physiological, clinical, and experimental. He reaches the conclusion that it is an ideal intestinal antiseptic (*Aerzt. Rundschau*, VII, No. 44, p. 694). In the stomach it undergoes only slight changes, but in the intestinal canal it

is gradually decomposed into tribromphenol, which possesses great antiseptic powers, and bismuth oxide, which unites with the ptomaines or their toxins, forming with them insoluble substances. A small percentage of the tribromphenol is excreted with the urine, and the bismuth oxide is removed with the feces. Its toxicity is exceedingly slight. Eight gme. (2 drams) have been given to guinea-pigs, but from 2 to 3 gme. (30 to 45 grn.) are sufficient for a thorough antiseptics of the intestinal canal in an adult. The usual dose is 5 decigrams (8 grn.) four times a day. It may be given in wafers, or best in a gum-arabic emulsion. Injurious effects on the digestion the author has not observed in a single case. The author calls especial attention to the great deodorizing power which xeroform exerts on the stools of typhoid patients, etc. R.

Purpura Hemorrhagica Treated with Artificial Serum

Drs. Feltz and Pigot (*Gaz. Hebdomad.*, No. 83, 1897) obtained excellent results in a very severe case of purpura by injections of artificial serum. After the first injection of 250 c.c. (8 oz.), the general condition of the patient became better, and the hemorrhages became slighter, and after two more injections the symptoms of purpura disappeared entirely. The authors suggest the same treatment in hemophilia. R.

The Therapeutic Value of Arsenauro

Prof. A. P. Buchman, of the Ft. Wayne College of Medicine, read a paper with the above title before the Mississippi Valley Medical Association at its late meeting in Louisville, and which has been published by the *New England Medical Monthly* (Dec., 1897, p. 502). Dr. Buchman states that he has used this remedy for four years with "almost universal happy effects." His first case was that of a traveling insurance adjuster who had suffered with gastric indigestion over a period of five years. With impoverished blood, shattered nerves, and the whole organism working at the lowest possible pressure, the patient came to him to get relief from extreme insomnia that had compelled him to quit work. After thoroughly cleansing, and as far as possible disinfecting the intestinal tract, regulating the diet so as to insure the greatest amount of nutrition at the least expense of digestive force, bathing, massage, electricity, using carminative and tonic drugs, he was not at the end of a month well enough to satisfy either the patient or the doctor. All treatment was now withheld except the administration of arsenauro in 10-drop doses four

times daily. After ten days insomnia had disappeared, appetite was restored, and the patient was able to go to work again. With sixty days' constant use of this drug he announced himself as perfectly well and able to perform his exacting work with ease and pleasure. This, Dr. Bachman says, is typical of the many cases he since treated with arsenauro. He adds, however, that like any other drug, it will fail unless the patient is first prepared for it. If given out of time or place it can only be expected to yield negative or indifferent results. In the field of denutrition and false metabolism depending upon gastric and intestinal indigestion, it is now his chief reliance. Its power to change the chemical movement in the blood-plasma seems to be the source of its power. He informs the reader that he has never had any such good results from Fowler's solution, notwithstanding the fact that arsenauro has not as much metallic arsenic to a dose. When this new remedy is evaporated there are peculiarly formed crystals left that have physical and chemical properties peculiarly their own, and that show this to be a distinct chemical individual and not a mixture of gold and arsenic. No cumulative effects nor symptoms of arsenical poisoning have ever been observed by him in using it as freely as he has done. It is easily and promptly assimilated.

Formula for Epilepsy

The following is recommended in *Cent. ges. Therapie* (XV, No. 11, p. 700):

Sodium Bromide..... 12.0 (3 dr.)
Sodium Bicarbonate..... 15.0 (½ oz.)
Tr. of Physostigma..... 5.0-10.0 (1½-2½ dr.)
Water 200.0 (6½ oz.)
Saccharin..... 0.20 (3 grn.)

Dose—Mornings and evenings a table-spoonful, diluted with water; after four days, stop for three days, then commence again.

Gelatin as a Hemostatic

In the MEDICO-SURGICAL BULLETIN for Dec. 10, 1897 (p. 1067), was reported Dr. Lancerneau's successful attempt to induce coagulation in an aneurism by the means of subcutaneous injections of gelatin. Dr. Paul Carnot has employed the same substance as a local hemostatic in epistaxis, metrorrhagia, wounds, and surgical operations (*Presse méd.*, No. 77, 1897). He uses a warm—not hot—5- to 10-per-cent. solution of gelatin in a sterilized salt-solution. In severe nose-bleed he syringes into the nose from 30 to 40 c.c. (8 to 10 drams) of a 5-per-cent. solution and stuffs the nasal cavity with a cotton tampon saturated with the same solution. The same method of treatment is employed in stopping hemor-

rhages from cuts, from a bursting varix, or those following extraction of the teeth, tonsillotomy, etc. In metrorrhagia the solution must of course be injected into the uterus under strictly aseptic conditions. The best results are obtained in operations. It is sufficient to press on the bleeding points a compress saturated in gelatin solution for a few seconds, when the bleeding ceases. The author resected large portions of the liver in animals and brought the bleeding surface in contact with the gelatin solution; the hemorrhage ceased rapidly, and the liver could be safely replaced into the abdominal cavity. R.

Woodbridge Treatment of Typhoid

The *Medical Age* (Dec. 27, 1897, p. 761) gives the following as the formulæ of the Woodbridge treatment for typhoid fever:

Resini podophylli..... 0.07 mg. (⅛ grn.)
Hydrargyri chloridi mitis. 4 mg. (⅛ grn.)
Guaiacol carbonatis..... 4 mg. (⅛ grn.)
Menthol 4 mg. (⅛ grn.)
Eucalyptol q. s.

Misce et fiat triturate No. 1.

Dose—One every fifteen minutes during the wakeful period of the first forty-eight hours, or until eighty or one hundred have been taken.

Large potations of sterilized carbonated water are recommended. At the end of twenty-four hours begin with:

Resini podophylli..... 0.07 mg. (⅛ grn.)
Hydrargyri chloridi mitis 4 mg. (⅛ grn.)
Guaiacol carb..... 15 mg. (½ grn.)
Menthol..... 4 mg. (⅛ grn.)
Thymol..... 4 mg. (⅛ grn.)
Eucalyptol..... q. s.

Misce et fiat tablet No. 1.

Dose—Give one every fifteen minutes with No. 1 until five or six free evacuations of the bowels have been procured, during this and the following day.

About the third or fourth day Dr. Woodbridge gives:

Thymol 6 ctg. (1 grn.)
Guaiacol carb..... 20 ctg. (3 grn.)
Menthol 3 ctg. (½ grn.)
Eucalyptol 3 c. c. (5 m.)

Misce et fiat capsule No. 1.

Dose—Give one every three hours until temperature has been normal for at least three days.

For children the same medicinal treatment is instituted in smaller doses.

Treatment of Diabetic Albuminuria

Dr. Robin says (*Rev. de Thér.*, October, 1897) that the primary disease—diabetes—should always receive our first attention. If antipyrin is the remedy selected, it should not exceed 30 grn. per diem, as it has a distinctly unfavorable action on the kidneys. The gastro-intestinal canal should be at-

tended to, if the albuminuria is the result of faulty digestion. When the albuminuria is phosphatic, as is so often the case, the following mixture should be administered:

Sodium Arsenate..... $\frac{1}{2}$ grn.
Potassium Iodide..... .48 grn.
Distilled Water..... .6 fl. oz.

Dose—A tablespoonful twice daily, half an hour before meals in a small glassful of milk.

A tonic pill, consisting of extr. cinchona and quinine sulphate each $1\frac{1}{2}$ grn. and extr. nux vomica 1-3 grn., should also be administered twice daily. After about two weeks these remedies should be stopped and the following powders should be given, at breakfast and at dinner:

Calcium Glycerophos... } of each... $1\frac{1}{2}$ grn.
Magnesium Phos }
Extract of Nux Vomica..... $\frac{1}{2}$ grn.

After two weeks the glycerophosphates should be discontinued, and the hypophosphites given instead. The mixture recommended by Dr. Robin is similar to our compound syrup of hypophosphites, but contains in each tablespoonful the following quantities:

Strychnine hypophos..... 1-300 grn.
Quinine hypophos } of each... $\frac{1}{2}$ grn.
Magnesium hypophos.. }
Potassium hypophos... } of each... $\frac{1}{2}$ grn.
Iron hypophos }
Sodium hypophos..... 1 grn.
Calcium hypophos..... $1\frac{1}{2}$ grn.

Dose—A tablespoonful before breakfast and dinner. R.

Tetany of Gastro-intestinal Origin in Children

Prof. E. Tordeus is the author of the following (*Med. Week*, V, p. 548):

Bismuth Salicylate..... 3.6
Benzonaphthol..... 1.8
Sugar..... 1.5

Divide into 12 powders.

Four powders are to be taken daily.

Potassium Bromide..... 3 gme. (45 grn.)
Chloral Hydrate..... 1 gme. (15 grn.)
Distilled Water..... 100 gme. ($3\frac{1}{2}$ fl. oz.)
Syrup Bitter Orange. 50 gme. ($1\frac{1}{4}$ fl. oz.)

The dose of this for a child two or three years old is three tablespoonfuls daily.

Validol

This new remedy is a combination of chemically pure menthol with valerianic acid, holding in solution an excess of free menthol (*Therap. Monat.*, XI, No. 11, p. 604). It is a crystal-clear, colorless fluid, of the consistency of glycerin, of a mild pleasant odor, and a cooling, very slightly bitter taste. The sharp taste and odor of menthol are not noticeable in this preparation. Locally it is non-irritant, and can therefore be taken by the most delicate

stomachs. Dr. Schwersenski, who introduced this remedy, recommends it highly as an analeptic, and as very useful in hysteria and neurasthenia. It is, of course, also useful as a stomachic and carminative. The dose is 10 to 15 drops on a piece of sugar or in a teaspoonful of wine. Its other uses are as an inhalation in the initial stage of catarrh of the respiratory organs, and in painting the tonsils and pharynx in tonsillitis and pharyngitis.

The author also recommends it as an external disinfectant for the skin. R.

Sexual Neurasthenia

The *Virg. Med. Semi-Monthly* is the authority for the following:

Quinine Bisulphate.... 20 grn. (1.3 gme.)
Iron Oxide (Brown)..... 1 dr. (4 gme.)
Strychnine Sulphate... $\frac{1}{2}$ grn. (0.03 gme.)
Extract Damiana..... 20 grn. (1.3 gme.)
Extract Cinchona..... 40 grn. (26 gme.)

Dispense in twenty capsules. One after each meal.

Limanol

A process has been patented in Germany for the extraction of the active constituents of the liman mud found near Odessa, which has been greatly frequented by sufferers from rheumatic and allied diseases. The process consists in boiling the mud and expressing, when an extract is had that serves as the basis for a new remedy, to which the name of "limanol" has been given. Its constituents, according to its manufacturer (*Pharm. Ztg.*, XLII, p. 564), are the "mud" oil or extract as above obtained, chloroform, ammonia-water, oil turpentine, and soap-spirits. This liniment is said to be an effective remedy in rheumatism, gout, sciatica, migraine, and particularly in affections of the joints.

Asthma

For the relief of asthmatic paroxysms Prof. S. Solis Cohen, of Philadelphia, warmly recommends the following combination, given hypodermically at bedtime:

Morphine Sulphate,
 $\frac{1}{8}$ to $\frac{1}{4}$ grn. (0.008 to 0.016 gme.)
Strychnine Sulphate,
1-60 to 1-40 grn. (0.001 to 0.0015 gme.)
Hyoscine Hydrobromate,
1-200 grn. (0.0003 gme.)

In some cases it is necessary to repeat the injection. In other cases, after two or three injections, complete relief from the attack has been observed. Of course, there are obstinate cases of asthma in which this gives only temporary relief, and in which considerable caution must be exercised as to its repetition.

REMEDIES INTRODUCED IN 1897

- ACERDOL**:— MnO_2 , K_2CO_3 , KOH . Oxidation-product of potassa and powdered manganese. Oxidizer, for bleaching, etc.
- ACETOCAUSTIN**:—50% Trichloroacetic acid. Caustic.
- ACETONAL**:—Aluminium and sodium acetate.
- ACID, NAPHTHIONIC**:—Remedy in acute iodism, poisoning by nitrites, and vesical affections. Dose: 3 to 4 gme. daily.
- ACID, SULPHOBORIC**:—Compound of sulphuric and boric acid intended for use in the arts.
- ACODINE**:—Dental preparation consisting of aconite, iodine, tannic acid, and glycerin.
- ADEFS OSSUM**:—See Ossalin.
- AJAKOL**:—Guaëthol; Thapitol.
- ALAPURIN**:—Purified Wool-fat.
- ALCARNOSE**:—Artificial food-product. Dose: 10 to 15 capsules (12 gme. each) per day, taken in cacao or bouillon.
- ALGOSINE**:—Proprietary analgesic for headaches.
- ALSOL**:—Aluminium acetotartrate.
- AMYOIODOFORM**:—Compound of iodine, starch, and formaldehyde. Succedaneum for iodoform.
- ANESIN**:—Solution of water-soluble acetone-chloroform.
- ANILPYRINE**:—Compound of acetanilid and antipyrin. Antipyretic and analgesic. Dose: 1 or 2 gme.
- ANAZOL**:—"Deodorous iodoform." Mixture of iodoform and thymol. Must not be confounded with anusol.
- ANTA-PA-NA**:—Proprietary demulcent and febrifuge.
- ANTIARTHRIN**:—Proprietary remedy consisting chiefly of salicin, used for gout and rheumatism.
- ANTIBRULE**:—Proprietary analgesic, antiseptic, and keratoplastic.
- ANTICHLOROS**:—Hematinic, in chlorosis.
- ANTIDYSPEPTICUM**:—A bitartrate containing also sodium carbonate, magnesia, ammonium chloride, and quinine, recommended in seasickness.
- ANTIPARASITIN**:—Insect-exterminator, containing potassium dinitroresol.
- ANTIPHTYSIN**:—Tuberculin-like preparation used by Prof. Klebs.
- ANTIPHTHISIN**:—Sozialbumose.
- ANTISEPTIKON**:—Dental antiseptic.
- ANTIARHEUMATIN**:—Ointment consisting of fluorphenetol and difluordiphenyl, used in rheumatism, lumbago, and influenza.
- ANTITHERMAL**:—Proprietary febrifuge.
- ANTITUSSIN**:—Difluordiphenyl. Used in whooping-cough, as a calmative and hypnotic.
- ANTIVENENE**:—Blood-serum of animals immunized against snake-poison.
- ANYTIN**:—33% Solution of ichthyolsulphonic acid and an aromatic, oily sulpho-compound present in ichthyol.
- ANYTOLS**:—Solutions of camphor, phenols, ethereal oils and other bodies, obtained by means of anytin.
- APIOLIN**:—Preparation from apiol. Not to be confounded with the proprietary apioline.
- ARTHRITICIN**:—Disinfectant.
- ASPAROL**:—Liquid extract, containing the extractive matter of asparagus.
- ASPIDINE**:— $\text{C}_{10}\text{H}_8\text{O}_7$. Substance obtained from male fern. Anthelmintic.
- ARGENTOL**:— $\text{C}_6\text{H}_5\text{N.OH.SO}_3\text{Ag}$. Compound of silver and quinaesepol. Succedaneum for iodoform for wounds, skin-diseases, syphilitic sores, etc., in ointment (1 or 2:100); and in solution (1 to 3:1000), in gonorrhea.
- BARAROL**:—Disinfectant.
- BARIUM LORETINATE, BASIC**:— $\text{Ba.I.O.C.H}_4\text{N.SO}_3 + \text{H}_2\text{O}$.
- BARIUM LORETINATE, NEUTRAL**:— $\text{Ba.(I.OH.C.H}_4\text{N.SO}_3)_2 + 2\frac{1}{2}\text{H}_2\text{O}$.
- BENZOIODOHYDRIN**:—Compound of benzoyl iodide and epichlorhydrin. Substitute for potassium iodide. 0.13 gme. correspond to 1 gme. KI .
- BENZOYL VINYL DIACETONE - ALKAMINE**:—See Eucaine B.
- BENZYL MORPHINE**:—See Peronin.
- BISMUTH OXYBROMIDE**:—Useful in dyspepsia, associated with nervous derangements, gastric pain, and vomiting.
- BISMUTH SULPHOCARBOLATE**:—Used in irritative dyspepsia, and in fever with offensive breath.
- BLENNOSTASINE**:—Proprietary medicine for influenza, colds, etc. Dose: 1 to 4 grn. hourly.
- BORO-FORMALIN**:—Boro-formol. Antiseptic, deodorant, and prophylactic.
- BOROL**:— SO_3 , OK (or Na). Not to be confounded with Boral. Internal antiseptic in croupous bronchitis, septicemia, erysipelas, etc., and externally in psoriasis, ozena, burns, etc. Dose: 10 to 20 drops for children, and 30 to 50 drops for adults, of a 20% aqueous solution.
- BROMALBUMIN**:—Bromine compound of albumin.
- BROMO-ANILINE**:—See Serosine.
- BROMOSINUM**:—Bromine compound of albumin. Used in epilepsy.
- CALCIUM LORETINATE, BASIC**:— $\text{Ca.I.O.C.H}_4\text{N.SO}_3$.
- CALCIUM LORETINATE, NEUTRAL**:— $\text{Ca.(I.OH.C.H}_4\text{N.SO}_3)_2 + \text{H}_2\text{O}$. Antiseptic.
- CALPHENOL**:—Antiseptic surgical dressing.
- CAMPHENOL**:—Combination of camphor, cresols, and phenols. Disinfectant and germicide.
- CAMPHOROXYOL**:—Solution of hydrogen peroxide, containing camphor and alcohol.
- CAPTOL**:—Antiseborrheic and medicinal cosmetic preparation. Used in dandruff, etc.
- CARNIFERROL**:—Liquor Carnis Ferro-Peptonatus. Iron preparation of meat peptone. Stimulant dietetic.
- CARPOSID**:—Glucoside from Carica papaya.
- CASEIODIN**:—See Iodocasein.
- CATECHUOXYQUINOLDEXTRINGLYCERAL**:—Papin.
- CHINAPHOTOL**:—See Quinaphotol.
- CHINORAL**:—See Quinoral.
- CHLORAL-ACETOPHENONOXIME**:— C_6H_5 , CH_2 , >C=NO.CHOHC Cl_2 . Hypnotic and sedative. Used in epilepsy, eclampsia, and tetanus.
- CHLOROSINUM**:—Chlorine compound of albumin. Used in gastric affections (catarrh and carcinoma).
- CHRYSOIDIN**:— $\text{C}_6\text{H}_5\text{.N}_3\text{.C}_6\text{H}_5\text{(NH}_2)_2\text{.H Cl}$. Diamido-azobenzol hydrochlorate. Disinfectant for potable water.
- CHRYSOTOXIN**:—An active principle of ergot.
- CITRUREA**:—Mixture of urea, citric acid, and lithium bromide. Uric-acid solvent.
- COLLAETINA**:—Proprietary lanolin-rubber adhesive plaster.
- COLLAFORM**:—A formaldehyd-gelatin, intended as a vulnerary.
- CONTRADOLIN**:—"Combination of salicylic and phenylic acids with acetamide." Antizymotic, analgesic, antineurotic, antithermic, and anodyne. Dose: 0.25 to 0.5 gme. hourly, if necessary.
- CORDEINE**:—Methyl tribromsalol.
- CORDOL**:—Tribromsalol. Hypnotic, hemostatic, and analgesic. Dose: 1.5 to 2 gme. (hypnotic): 1 gme. (analg.), in migraine, colic, vesical spasm, strangury, etc.
- CORDYL**:—Acetyl-tribromsalol. Used like cordol.

- COSAPRIN**:— $C_6H_5 \begin{smallmatrix} \text{NH}(\text{CO} \cdot \text{CH}_3) \\ \text{SO}_3\text{Na} \end{smallmatrix}$ (1)
(4)
Acetyl compound of sodium sulphanilate.
Succedaneum for acetanilid.
- CREOSOTE PHOSPHATE**:— $\text{PO}_4(\text{C}_6\text{H}_5)_3$. Tricreosote phosphate. Succedaneum for creosote.
- CREOSOTE PHOSPHITE**:—See Phosphatol.
- CURANGIN**:—Glucoside from *Curanga amara*.
Used in India as a febrifuge.
- DEXTROFORM**:—Condensation-product of dextrin and formaldehyd.
- DIABETICO**:—Beverage recommended in diabetes.
- DICODEYLMETHANE**:—Condensation-product of codeine and formaldehyd.
- DICODEYLMETHANE HYDROCHLORATE**.
- DIFLUORIDIPHENYL**:—See Antitussin.
- DIMETHYLAMIDO-ANTIPYRIN**:—See Pyramidon.
- DIMETHYL - AMIDOPHENYL - DIMETHYLPYRAZOLON**:—
See Pyramidon.
- DIPHENOL**:—Diamidoxyphenyl. Photographic developer.
- DOURAHINA**:—Brazilian drug, used as a diuretic and diaphoretic, like digitalis.
- DYNAMOGEN**:—Preparation resembling hematogen, and used similarly in anemia and its sequelæ.
- EKA-IODOFORM**:—Mixture of iodoform with paraform. Succedaneum for iodoform.
- ENTEROROSE**:—Dietetic recommended in gastrointestinal catarrh. Dose: 8 gme. every 1 to 3 hours; children half the dose.
- EPIDERMIN**:—Ointment for dermatological antiseptis; said to be composed of fluoroxyl and difluorphenyl. Do not confound with Epidermin Rothriegel, also an ointment-base.
- EPIDERMIN-ROTHRIEGEL**:—Ointment-base of wax, glycerin, mucilage acacia, and water.
- ETHYLAMINE URATE**:—Remedy in gout and vesical calculi.
- EUCALINE B**:—Benzoyl-vinyldiacetonealkamine hydrochlorate. Succedaneum for cocaine in ophthalmological practice in 2% solution.
- EUCALINE**:—Proprietary deodorant and disinfectant.
- EUNATRON**:—Sodium oleate. Cholagogue. Dose: 0.25 gme., best given in pill or capsules.
- EUPHTHALMIN**:—Mydriatic obtained from amygdalic acid. Used in 2% solution.
- EUQUININE**:— $\text{CO} < \begin{smallmatrix} \text{O} \cdot \text{C}_6\text{H}_5 \\ \text{O} \cdot \text{C}_6\text{H}_5 \end{smallmatrix} \text{N}_3\text{O}$.
Quinine chlorocarbonic-acid-ester. Succedaneum for quinine. Dose: Half again as much as quinine, in cachets, milk, soup, or cacao.
- EXOL**:—Dental local anesthetic.
- EXTRACTUM OSSIIUM LIQUIDUM**:—See Ossin.
- FERRIPION**:—Concentrated iron preparation for anemia, debility, etc. May be given subcutaneously or per os.
- FERRO-SODIUM CITROALBUMINATE**:—Hematinic. Contains 30 per cent. ferric oxide. Dose: 1.5 gme. for adults; 0.25 to 0.5 gme. for children, in soup or syrup.
- FERROSOL**:—Iron and sodium disaccharate. Also known as *Liquor Ferri Oxydati Natronati Saccharata*. Employed in anemia, chlorosis, etc.
- FORMACOLL**:—Formaldehyd-gelatin.
- FORMAGEN**:—Dental cement.
- FORMATOL**:—Disinfectant dusting-powder, containing formaldehyd.
- FORMOLID**:—Proprietary antiseptic, germicide, and prophylactic.
- GASTROMYXIN**:—Preparation from the mucous membranes of cattle, used in dyspepsia.
- GLANDULIN**:—Organo-therapeutic preparation of bronchial glands, combined with milk-sugar, in tablet-form.
- GLYCERIN LACTOCARBOLATE**:—Mixture of carbolic and lactic acids with glycerin. Topical application in laryngeal tuberculosis.
- GUAIACOCAINE**:—Dental anesthetic.
- GUAIACOL PHOSPHITE**:— $\text{P}(\text{C}_6\text{H}_4 \cdot \text{OCH}_2 \cdot \text{O})$. Compound of guaiacol and phosphorus trichloride.
- GUAIACQUIN**:— $\text{C}_6\text{H}_4\text{O}_2\text{CH}_2\text{HSO}_3 \cdot \text{C}_6\text{H}_4\text{N}_3\text{O}_2$.
Quinine guaiacol-bisulphonate. Compound of guaiacol-sulphonic acid and quinine alkaloid. Succedaneum for guaiacol.
- HAEMONENIN**:—A beef-extract, with mineral constituents, found in normal blood added.
- HAEMOTROPIN**:—Fluid preparation of hemoglobin.
- HEMOSTEROL**:—Compound obtained from fresh animal blood.
- HOLOCAINE**:—
 $\text{OC}_6\text{H}_4 \cdot \text{C}_6\text{H}_4 \cdot \text{NH} \cdot \text{C} \cdot \text{CH}_3 \cdot \text{N} \cdot \text{C}_6\text{H}_4 \cdot \text{O} \cdot \text{C}_6\text{H}_5$.
Para-diethoxyethenyldiphenylamidine. Condensation-product of phenacetin and parphenetidin. The hydrochlorate is usually employed.
- HOLOCAINE HYDROCHLORATE**:—Local anesthetic. Succedaneum for cocaine in ophthalmological practice, in 1% solution.
- HOMOARECOLINE**:— $\text{C}_7\text{H}_{10}(\text{C}_6\text{H}_5)\text{NO}_2$. Methyltetra-hydronicotinic acid.
Succedaneum for arecoline.
- HOMOARECOLINE HYDROBROMATE**:—
 $\text{C}_7\text{H}_{10}(\text{C}_6\text{H}_5)\text{NO}_2 \cdot \text{HBr}$.
Succedaneum for arecoline.
- HUMINAL**:—Moor extract.
- HYDRASTOL**:—Proprietary preparation of hydrastis.
- HYDRARGYROSEPTOL**:—
 $\text{C}_6\text{H}_5\text{N} \cdot \text{O} \cdot \text{SO}_2 \cdot \text{Hg} + 2\text{NaCl}$. Combination of mercury quinosal with sodium chloride. Antisyphilitic.
- HYGIAMA**:—Aliment resembling cacao, and employed in gastric and intestinal affections.
- ICHTHALBIN**:—Compound of ichthyol and albumin. Odorless, tasteless. Succedaneum for ichthyol, internally. Dose: 1 to 2 gme. twice or thrice daily; children up to 1 gme.
- IODAMYL-FORMOL**:—Preparation consisting of formaldehyd, starch, thymol, and iodine.
- IODANISOL**:— $\text{C}_6\text{H}_4 \cdot \text{OCH}_2 \cdot \text{I}(1:2)$. Antiseptic and local rubefacient.
- IODETHYLFORMIN**:— $\text{C}_6\text{H}_5\text{N}_4 \cdot (\text{C}_2\text{H}_5\text{I})_2$. Succedaneum for iodides, for internal use.
- IODOCASEIN**:—Preparation resembling thyroïdin, used in struma.
- IODOCROL**:— $(\text{C}_{10}\text{H}_7\text{OI})_2$. Surgical antiseptic. Succedaneum for iodoform.
- IODOFORMSALOL**:—Mixture of iodoform and salol. Surgical antiseptic.
- IODOGALLICIN**:—
 $\text{C}_6\text{H}_5\text{COOCH}_2 \cdot (\text{OH})_2 \cdot \text{O} \cdot \text{BiOH} \cdot \text{I}$. Bismuth Oxyiodomethylgallol. Antiseptic, like iodoform.
- IODOSINUM**:—Iodine compound of albumin. Used in parenchymatous goiter, tetanus, and myxedema.
- IODTERPIN**:—Combination of terpin with iodine. Surgical disinfectant, and succedaneum for iodoform. A 1 to 20% mixture, with kaolin recommended as a dusting-powder.
- IODOTHYROIDINE**:—Preparation similar to thyroïdine (iodothyrene).
- IODOVASOL**:—Combination of vasol and iodine, containing 7% of iodine.
- IQUININ**:—Proprietary remedy for malaria. Dose: 2 to 10 grains every 2 to 3 hours.
- IRISOL**:—Proprietary disinfectant, consisting of 50% iodoform and 45% boric acid.
- IRON VITELLINATE**:—Preparation of egg-yolk containing iron.
- KLEMMOLIN**:—Preparation of pine-tops, poplar buds, etc. Used in rheumatism.
- KREOSOLID**:—Creosote preparation, used like creosote. Dose: 0.5 gme 4 times daily.
- KRONETHYL**:—Ethereal extract of Chinese cantharides. Used in gout and neuralgia. Application: 6 to 10 drops on wet compresses.
- KRYOFIN**:— $\text{CH}_2\text{OCH}_2\text{CO} \cdot \text{NH} \cdot \text{C}_6\text{H}_4 \cdot \text{OC}_6\text{H}_5$.
Methyl-glycolic-acid phenetidid. Antipyretic

- and antineuralgic. Dose: 0.5 gme. (equivalent to 1 gme. phenacetin).
- LAURENOL:**—Surgical antiseptic.
- LAXIQUININ:**—Compound of iquinin with laxatives.
- LINADIN:**—Organo-therapeutic preparation from the spleen.
- LIANOL:**—Preparation from liman mud, and recommended in rheumatic affections.
- LINONINE:**—Substitute for cod-liver oil.
- LIPASE:**—Ferment from blood-serum.
- LIQUOR AROMATICUS:**—Mixture of oils of lavender, cloves, cinnamon, thyme, lemon, mace, and bergamot with alcohol. Used as a collyrium, and also in rheumatism.
- LIQUOR CARNIS FERRO-PEPTONATUS:**—See Carni-ferrol.
- LIQUOR FERRI OXYDATI NATRONATI SACCHARATA:**—See Ferrosol.
- LIQUOR FERRI VITELLINI:**—Ferruginous preparation of egg-yolk. Substitute for cod-liver oil.
- LIQUOR IODOSINI:**—Solution of iodosinum, containing 0.25% of iodine.
- LORENIT:**— $C_9H_7I.SO_3.OH.N$. Para-iodoan-oxyquinoline orthosulphonate.
- MACLAYIN:**— $C_{17}H_{25}O_{11}$. Glucoside from *Iliffe Maclayana*. Powerful local irritant.
- PERONIN:**— $C_9H_8NO_2.HCl = C_{17}H_{18}NO_2.O.C_6H_5.CH_3.HCl$. Benzylmorphine. Succedaneum for morphine. Dose: 0.02 to 0.04 gme.
- MAGNESIUM LORETINATE, BASIC:**— $Mg.I.O.C_6H_4.N.SO_3+5H_2O$.
- MAGNESIUM LORETINATE, NEUTRAL:**— $Mg(I.OH.C_6H_4.N.SO_3)_2+7H_2O$.
- MAYOL:**—Meat-preservative, said to be a mixture of ethyl and methyl alcohols, boric acid, glycerin, and ammonium fluoride.
- MEDOL:**—Photographic developer.
- MENTHOL:**—Solution of hydrogen peroxide, containing menthol and alcohol.
- META-DIOXYNAPHTHALIN:**—Naphthoresorcin.
- METHYL-GLYCOLIC-ACID-PHENETIDIN:**—See Kryofin.
- METHYL-LORETIN:**— $CH_3.I.OH.C_6H_4.N.SO_3H+H_2O$, Paramethyl-metaiodo - ortho - oxyquinoline - anasulphonic acid.
- METHYLSALOL:**—Para-cresotinic-acid Phenyl Ester.
- METHYL-VANILLIN-PARA-PHENETIDIN:**—Hypnotic.
- MIGROL:**—Proprietary remedy for migraine. Mixture of caffeine, sodium bicarbonate, and guaiacetin.
- MOLLOSIN:**—Ointment-base, composed of liquid paraffin and wax.
- MONOCHLOR-META-CRESOL:**—Succedaneum for para-chlorophenol.
- MONOLENE:**—Colorless hydrocarbon oil.
- MYELEN:**—Organo-therapeutic preparation made from red and white marrow. Used in scrofula, rachitis, necrosis, and anemia.
- NAFTALAN:**—Petroleum ointment-base.
- NAPHTHORESORCIN:**—Metadioxynaphthalin. Antiseptic.
- NAPHTOSALICIN:**—Compound of naphtol and salicylic acid. Disinfectant.
- NAPHTOXOL:**—Solution of hydrogen peroxide, containing naphtol and alcohol.
- NATROL:**—Proprietary preparation used in photography.
- NERVINE:**—Extract of normal gray substance of brain of sheep.
- NERVOSIN:**—Proprietary nervine.
- NJALLINE:**—Alkaloid from njalla-beans.
- NORMAL ANTHYDRORRHIN:**—Remedy composed of boric and salicylic acids dissolved with chlorine in alcohol and water.
- NORTROPINONE:**— $C_7H_{11}NO$, Oxidation-product of tropigenine by means of chromic acid.
- Noxinol:**—Photographic preparation.
- NUCLEOHISTON:**—Albuminoid obtained from lymph and thymus gland of calves. Said to effect immunization against disease.
- OMAL:**—Trichlorphenol. Inhalant in inflammatory conditions of air-passages.
- OPIANIC-ACID-PARA-PHENETIDIN:**—Hypnotic.
- ORTHOFORM:**—Methyl ester of para-amidometa-oxybenzoic acid. Antiseptic and local anesthetic used in eye-affections. Dose: $\frac{1}{2}$ to 1 gme. in affections of gastric mucous membranes.
- ORTHOFORM HYDROCHLORATE.**
- ORTHO-IODANISOL:**—See Iodanisol.
- ORTOL:**—Photographic developer, similar to amidol and metol.
- OSSALIN:**—Adeps Ossium. Ointment-base made from ox-marrow.
- OSSIN:**—Extractum Ossium Liquidum. Preparation of ox-marrow, employed in diabetes.
- OVADIN:**—Extract of ovaries.
- OXYPHENACETIN SALICYLATE:**—Compound prepared from chloro- or bromo-phenacetin, and sodium salicylate.
- OXYSEPSIN:**—Substance similar to oxytuberculin, and used with it in tuberculosis.
- OXYTUBERCULIN:**—Tuberculin changed by oxidation. Used in tuberculosis.
- PAPIN:**—Not Papine. "Catechuoxo-chinoldextringlycerol."
- PARA-AMIDOMETA-OXYBENZOIC-ACID METHYL ESTER:**—See Orthoform.
- PARACHLOROPHENOL PASTE:**—Remedy employed in lupus. Said to be composed of equal parts of lanolin, vaselin, starch, and parachlorophenol.
- PARA-CRESOTINIC-ACID PHENYL ESTER:**—Methylsalol.
- PARADIETHOXYETHENYL - DIPHENYLAMIDINE:**—See Holocaine.
- PARAHAEMOGLOBIN:**—Preparation made from blood, and containing 5% of iron.
- PERIPLOCIN:**— $C_{20}H_{28}O_{12}$. Glucoside obtained from *Periploca Graca*. Similar in effect to digitalis and strophanthus.
- PHASELIN:**—Proprietary surgical antiseptic, and absorptive, stimulant, and digestive.
- PHENAMINE:**—Phenaminum. Name improperly applied to phenocoll.
- PHENATROCINE:**—Proprietary antiseptic and analgesic.
- PHENOSUCCIN:**—Pyranthin.
- PHESIN:**— $C_6H_5.O.C_6H_4.SO_3Na.NH.CO.CH_3$. Sulpho-derivative of phenacetin. Antipyretic.
- PHOSPHATOL:**—Creosote Phosphite. Compound of creosote with the phosphorous ethers of various phenols. Contains 90.5% creosote.
- PHOSPHO-CERRAL:**—Dietetic suitable for ingesting phosphates in vegetable form.
- PHOSPHO-GUAIACOL:**—See Guaiacol Phosphite.
- PINAPIN:**—Prepared pineapple juice. Digests albumin in vaginitis, tonsillitis, etc.
- PINAPIN:**—Fermented banana juice, used in catarrh.
- PIPERIDINE GUAIACOLATE:**— $C_8H_{11}NC_7H_5O_2$. Compound of piperidine and guaiacol. Succedaneum for guaiacol and creosote in phthisis. Dose: 5 to 30 grains, 3 times daily.
- PIPERIDINE URATE:**—Uric-acid solvent, recommended in gout and gravel.
- PROTARGOL:**—Combination of silver with certain proteins. Bactericidal vulnerary. Used in solution ($\frac{1}{4}$ to $\frac{1}{8}$) in gonorrhea, and in urethritis in the female (5 to 10%).
- PROTEKTIN:**—Specially prepared antiseptic, adhesive paper for surgical use.
- PSEUDODIPHTHERIN:**—Proprietary remedy for diphtheria.
- PSILOTHINUM:**—Depilatory in the form of a cerate.
- PYRALOXIN:**—Oxidized Pyrogallol. Used like, but said to be superior to, pyrogallol.

PYRAMIDON.—Dimethylamidophenyldimethylpyrazolon. Dimethylamido-antipyrine. Derivative of antipyrin, for which it is a substitute. Dose: 0.2 to 0.4 gme. in aqueous solution.

PYROCTIN.—Proprietary febrifuge and anodyne.

QUINAPHTOL.—Chinaphthol. Compound of quinine and beta-naphthol alpha-sulphonate. Given in typhoid fever, intestinal tuberculosis, rheumatism, dysentery, etc. Dose: 0.5 gme. single, or 5 gme. daily, preferably in cachet.

QUININE CHLOROCARBONIC-ACID ESTER.—See Euquinine.

QUININE GLYCERINOPHOSPHATE.— $C_5H_7O_2 \cdot PO_4(C_{20}H_{24}N_3O_4)_3$. Nervine tonic in malnutrition, accompanied by malarial trouble. Dose: 0.1 to 0.3 gme. in pill, 3 t. p.

QUININE GUAIACOL-BISULPHONATE.—See Guaiquin.

QUININE HYDROCHLOROPHOSPHATE.— $C_5H_7N_3O_2 \cdot HCl \cdot 2PO_4H_2 \cdot 3H_2O$. Compound of quinine hydrochlorate and concentrated phosphoric acid. Used in malaria and nervous headaches.

QUINOPYRIN.—Solution of quinine hydrochlorate (50%) and antipyrin (33 $\frac{1}{3}$ %), eligible for hypodermic use. Febrifuge.

QUINORAL.—Compound of chloral and quinine. Antiseptic and bactericide. Dose: 0.5 to 1 gme. In larger doses, hypnotic.

RHEUMAGON.—"Normal osmotic, regulating nutrition and waste." Proprietary antilithic, analgesic, and sorbafacient. Dose: $\frac{1}{2}$ dr. thrice daily.

RHODALLIN.—Thiosinamine.

ROBOLINE.—Proprietary general tonic, nerve-stimulant, and digestive.

RUBITIN.—Proprietary preparation for massage and application by friction. Said to consist of menthol, ether, camphor, soap, laurel-oil, and oil rosemary.

SALBOROL.—Combination of salol and boric acid. Antiseptic and antirheumatic.

SALICYL-CREOSOTE PASTE.—Mixture of salicylic acid, creosote, cerate, and wax, prescribed by Unna.

SALUBROL.—Bromide compound of diantipyrin-methylene. Antiseptic, odorless, dusting-powder. Substitute for iodoform.

SANAL.—Surgical antiseptic.

SANOSE.—Casein-albumin compound. Dietetic and tonic.

SAVONAL.—Soap-base, intended as a vehicle in skin-diseases.

SEROSINE.—Bromo-aniline. Proprietary antipyretic, aseptic, and nervine.

SILVER SULPHO-CARBOLATE.—Antiseptic, used like itrol and argonin, in eye-diseases and wounds.

SOCOTRINE.—Veterinary remedy for colic.

SODIUM ACETSULPHANILATE.—Antipyretic.

SODIUM ARSENO-TARTRATE.—

$AsONaC_4H_4O_6 \cdot 2\frac{1}{2}H_2O$. Stable, soluble arsenic salt, of which 1 gme. = .3225 gme. of As_2O_3 .

SODIUM CACODYLATE.— $As(CH_3)_2ONa$. Used instead of cacodylic acid in psoriasis, etc. Dose: 0.25 gme. per os., and 0.1 gme. daily, subcutaneously.

SODIUM OSSALINATE.—Sodium compound of the acid of ox-marrow. Substitute for cod-liver oil.

SOZALBUMOSE.—Antiphthisin.

SOZOBOROL.—Mixture of aristol, sozoidolates, and borates, used in coryza.

SPHYGMOGENIN.—Active constituent of suprarenal capsules.

STERIFORM CHLORIDE.—Formaldehyd preparation, containing ammonium chloride, pepsin, and milk-sugar.

STERIFORM IODIDE.—Formaldehyd preparation, containing ammonium iodide, pepsin, and milk-sugar.

STOMATOL.—Proprietary antiseptic and preservative, composed of terpineol, soap, alcohol, glycerin, water, and aromatics.

STRONTIUM LORETINATE, BASIC.—

$Sr.I.O.C_2H_4N.SO_4$.

STRONTIUM LORETINATE, NEUTRAL.—

$Sr.(I.OH.C_2H_4N.SO_4)_2 + H_2O$.

SULFHYDRAL.—Proprietary antiseptic and antiparasitic, in infectious and contagious diseases.

SUPRADIN.—Organo-therapeutic preparation of suprarenal capsules, containing iodine.

TAMAQUARE.—Remedy for clearing up corneal opacities.

TANGHININ.—Preparation from *Tanghinia venenifera*, used like strophanthus.

TANNALBIN, VETERINARY.—Modified albumin tannate, intended for veterinary use. Dose: 20 to 24 gme., in 3 portions, daily.

TANNOSAL.—Tannic-acid ester of creosote. Substitute for creosote in pulmonary troubles. Dose: 1 gme. single, and 3 gme. daily, increased to 4 or even 6 gme.

TENIDE.—Remedy for diabetes.

TETRA-iodo-ETHYLENE.— C_2I_4 . Inodorous succedaneum for iodoform.

THANATOL.—Guaethol; ajakol.

THYCALOL.—Proprietary dental antiseptic.

THYREIN.—Thyroidine; Iodothyrene.

TRIBENZOYL-GALLIC ACID.—Compound of gallic acid and benzoyl chloride. Intestinal astringent.

TRIPHENAMINE.—Triphenaminum. Mixture of phenocoll, phenocoll salicylate, and phenocoll acetate. Intended for rheumatic complaints.

TRIPHENYLALBUMIN.—

$6C_6H_5H_{10}(C_6H_5)_3N_3SO_3 + 3H_2O$. Compound of albumin with carbolic acid. Nutrient in bacteriological work.

TROPHONINE.—Nutritive.

TUBERCULINS A, O, AND R.—Preparations prepared by Koch. The last is said to be active in immunizing against tuberculosis.

UNGUENTUM SALVO PETROLIA.—Ointment-base resembling vaselin.

USANE.—Dental local anesthetic.

VALSOL.—Ointment-base, and solvent for iodoform, ichthyol, creolin, etc.

VANILLIN-PARAPHENETIDIN.—

$C_8H_8.OH.OCH_3.CH.N.C_6H_4.OC_6H_5$. Condensation-product of vanillin and paraphenetidin. Hypnotic and anti-neuralgic.

VASELOXINE.—Preparation resembling vasogen, and used similarly.

VASOL.—Ointment-base.

VISKOLEIN.—Proprietary antiseptic and febrifuge.

VULNERAL.—Proprietary vulnerary, containing benzoin, myrrh, petrolatum, spermaceti, lanolin, boric acid, zinc oxide, carbolic acid, aluminium acetate, camphor, and lard.

YOHIMBINE.— $(C_{21}H_{33}N_2O_8)_2 + H_2O$. Alkaloid from yohimbehe tree.

The Homeopathic Medico-Chirurgical Society of Central New York, at a recent meeting in Syracuse, had a debate on Antitoxin. The majority expressed decided opposition to its use, characterizing it as anti-homeopathic. One of their number, a Dr. Candee, said he had used antitoxin in five cases, and they all made good recoveries. Dr. E. O. Kinne, instead of seeing anything encouraging in this, said that in his opinion its use by homeopaths was a very reprehensible practice. Dr. W. H. Nickelson predicted that inside of five years antitoxin would be a thing of the past. The general sentiment expressed was one of antagonism, and that, too, without a particle of evidence being adduced against it. This they call science.

REVIEWS

Transactions of the Medical Society of the State of New York for 1897. Published by the Society. 1897.

This is a nice-looking book, with gilt-top leaves and bound in green cloth. Its appearance and contents do credit to the society. It contains forty-six chapters of great interest upon many of the most important subjects of medicine and surgery. Among these may be mentioned a very exhaustive discussion upon "The Relation of Impure Water to Disease," including twelve different papers upon the various phases of the subject; an interesting paper upon "The Modern Treatment of Chronic Heart-disease," by Thomas E. Satterthwaite, M. D.; some very instructive articles under the head of Obstetrical Discussion.

The book contains other very interesting papers, one by A. Jacobi, M. D., upon "Hereditary Syphilis," and another by H. J. Boldt, M. D., upon "The Causes of Death After Abdominal Section." Dr. A. M. Phelps has contributed a communication with thirty-three illustrative figures, upon "The Management of Club-foot, and the Results of the Open Incision Operation in 538 Cases"; also a "Report of Three Cases Treated by Interrupted Traction for Two, Twelve, and Fourteen Years, Respectively, Nine Times a Day." Another profusely illustrated and very instructive article is by Reginald H. Sayre, M. D., upon "Posture in the Diagnosis of Disease." The "In Memoriam" contains the names of a number of the prominent "permanent" and "honorary" members of the society, who have passed away.

The book contains the names of the officers and members of the various county and other medical societies of the State of New York; the officers and members of the Academy of Medicine of New York City. T.

Hare's Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Laureate of the Medical Society of London, of the Royal Academy in Belgium, etc. New (2d) and revised edition. In one octavo volume of 598 pages, with 201 engravings and 13 full-page colored plates. Cloth, \$4.75. Philadelphia, Lea Brothers & Co., publishers.

The first edition of this work of Prof. Hare was so quickly exhausted that a new one had to be begun within a year. The rapid sale of this book showed that the author, in reversing the usual method of dealing with diagnosis, had introduced a much-needed change. The old plan was anything but in accordance with the wants of the practitioner, and was far from following the methods of modern science. It is rather strange that this fact was not seen long before and taken advantage of by those writing works on practice in the past half-century. All along there has been a tendency to assume that the student could get a true conception of a disease from the mere word description of a book. On this assumption the authors have given the name of the disease first and the description afterward. Then, at the bedside, the student makes his guess concerning the disease and compares it with what the book says to see if he is right. Dr. Hare, on the contrary, leads the student from the symptoms to the disease just as a botanist finds what a plant is by

taking its various parts, finding first its most general and then its more and more particular characteristics till at last he learns its species. Instead of leading the student from the guessed disease to the actual symptoms, he begins with the symptoms and traces them up to the disease. This way of dealing with the subject is going to become the method of the future. Dr. Hare has made an excellent beginning, but it will be improved upon to a marked degree in future. Its perfection will take many, many years of work and a large number of workers. Etiology will have to advance much farther than it has yet reached before that time comes. We are on the way to it, however. In time diseases will be named and classified scientifically, and then Dr. Hare's method of diagnosis will be the only one practiced or possible. Even now it is of immense value, but it is not nearly so valuable as it is destined to become. The volume is a very handsome one, and does great credit in every detail to the publishers.

An Epitome of the History of Medicine.—

By Roswell Park, A. M., M. D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Illustrated with Portraits and other Engravings. One Volume, royal octavo, pages xiv-348. Extra cloth. Beveled edges, \$2 net. The F. A. Davis Co., publishers, 1914 and 1916 Cherry Street, Philadelphia; 117 W. Forty-second Street, New York; 9 Lakeside Building, Chicago.

The author of this interesting volume begins by saying in his preface that "the history of medicine has been sadly neglected in our medical schools." This is quite true, but conditions are at present such that it is unavoidable. There is already too much taught in our schools during student years. To add history would but make it necessary for some one to call the attention of teachers to *Æsop's* fable of the boy and the nuts. But history has indeed been sadly neglected as a scientific study by medical men. Prof. Park has in this book uncovered the first trace of a vein of gold, and a vein that the reviewer believes to be very rich. There is no royal road to gold-mining, and therefore there is a tremendous amount of work to be done before the scientific history of medicine is completely written. The volume before us is a good beginning, but it follows the usual method of writing history. It gives too much space to men and their systems. The author evidently appreciates this fact, and seeks to avoid it, but his thread of continuity is broken at too many places to be anything like the perfect work of the future. We want a history of medicine that follows minutely every little current of thought that led to a medical idea. The growth of every medical idea should be followed. How it came into existence, what it arose from, and how fast or slow it grew should be shown. Arising in indefiniteness, it must in time have become definite. To trace such growth would be a herculean task, but it is one that should be done. A history of medicine that would be as interesting to medical men as fairy tales are to children could be written, in which not a single name of any medical hero would appear or even any reference to such be made. It would deal wholly with the growth of ideas and methods. All history should be of this kind, but might have the heroes and their names added as raisins are sprinkled through a rich cake. To make a history of heroes is to spoil it for all scientific uses. To glorify the hero is to belie the facts. The hero is only possible where conditions

have first developed to allow him to expand. Every great man is great because the times were ripe for him. The essential thing in writing history is, therefore, to show how and why the times ripened so as to make the hero possible. The volume before us is excellent as a beginning, and we commend it to our readers as a valuable and highly instructive one. The author has handled the material within his reach in first-class style. The next man who follows him should, however, do better, and lead us a step nearer to the ideal. The publishers have spared no pains in doing their part of the work in a way to make it acceptable to its readers.

Diseases of the Stomach: Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Analysis of Stomach Contents, Dietetics, Surgery of the Stomach, etc. In Three Parts. By John C. Hemmeter, M. B., M. D., Philos. D., Clinical Professor of Medicine at the Baltimore Medical College; Consultant to the Maryland General Hospital, etc. With many original illustrations, a number of which are in colors, and a lithograph frontispiece. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1897. Price \$6.

Professor Hemmeter has done great credit not only to himself, but to America, in having produced a book so thoroughly scientific, useful, interesting, and readable as this is. When carefully compared with the work of Professor Oswald, we must confess that we like this new volume the better. Its Physiology and Pathology are more complete, its statements more apt, and its style more American. The plates illustrating the anatomy of the stomach-wall are the best we have ever seen. The author's method of testing absorption from the stomach is charmingly ingenious and convincing as regards its accuracy. The chapters on dietetics and the accompanying tables are first-class, and will no doubt be appreciated highly by all who consult this work. What he has to say about artificial ferments is timely and sound. The author in his preface says: "My chief effort has been to furnish the general practitioner with a work from which he can easily acquaint himself with all that has been done in this important branch of medicine, to fit himself to make examinations, to take advantage of new methods of diagnosis, and to treat this very difficult class of diseases rationally and successfully." The author has certainly acquitted himself well in so perfectly accomplishing what he thus set out to do. The publishers have done their share toward making this a very desirable book for all who are interested in the subject of which it treats. We believe it will be a very popular volume among American practitioners.

Diseases of the Eye and Ophthalmology: a Handbook for Physicians and Students. By Dr. Eugen Fick (University of Zürich). Authorized translation by Albert B. Hall, A. B., M. D., Consulting Ophthalmic Surgeon to Charity Hospital, etc., Chicago, Ill. P. Blakiston, Son & Co., Philadelphia, Publishers: Price, cloth, \$4.50.

It is refreshing to notice the work of a writer who has his subject matter so thoroughly in hand, that he has been enabled to condense so much valuable material in such a readable manner as Dr. Fick has done. Beginning with "Methods of Examination," chapters with such subdivisions on diseases of the eye as "Diseases of the Lids,"

"Lachrymal Apparatus," "Conjunctiva," "Cornea," "Sclera," "Iris," "Ciliary Body," "Retina," etc., follow in order. "Diseases of the Orbit" concludes the book.

We have no criticism to make of the author's work or of the work of his translator, which, according to the latter, has been truly a "labor of love."

To the American edition, however, there seem to have been added two appendices—one on "Abbreviations Used in Ophthalmology," and the other on "Etymologies." These appendices are as harmful to a work of this character as their prototype is dangerous to its readers.

Appendix A is a reflection on the primary education of the modern ophthalmological student, and appendix B is too incomplete to be of value even as a glossary, or a "condensation of Gould's medical dictionary."

"Favorite prescriptions," and additions of this character to an otherwise scientific work, are always unfortunate. Many of the illustrations are original, and there are several finely executed colored drawings of the fundus oculi.

Typographically, this volume is worthy of the publishers, who, for years, have made the profession their debtors by the character, quality and high standard of excellence which their publications have always maintained.

No student of ophthalmology can afford to be without this admirable work in his library, and no work on this subject with which we are familiar can be consulted with greater satisfaction.

CORRESPONDENCE

The BULLETIN does not hold itself responsible for the opinions of its correspondents.

How Do Medicines Produce Results?

To the Editor of the A. M.-S. BULLETIN:

Has not the medical profession arrived at the point that they need to be told how the articles given as medicine produce the result it is claimed they produce? Is it by assimilation with the structures, or by the physiological work called for to remove the drug given, that the results are produced? For more than fifty years it has been in my thoughts—How and why do these actions occur?

The vital action I was taught I have had to discard, as not in accordance with nature.

Have we arrived at the time and point that we can say in truth that man's difference from his surroundings consists in the addition to the vegetable of a motor to propel and a mind or intelligence to guide the motor, and that all disease is physical, and that the remedies must also be physical?

T. G. SIMPSON, M.D.

West Fairlee, Vt.

At the tenth annual meeting of the Pittsburg Academy of Medicine, Dr. G. M. Sternberg gave an interesting and instructive lecture on the "Relations of Man to Microbes." Hundreds of photo-micrographs of microbes were projected upon a screen for all of the 200 invited guests to see. After the lecture there was a banquet.

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE

Issued on the 10th and 25th of the Month

HORATIO C. WOOD, M.D., LL.D., Editor
ROBERT G. ECCLES, M.D., Managing Editor

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EDITOR'S NOTES

The first issue of the new *Philadelphia Medical Journal* comes fully up to all that was promised by its projectors in their prospectus. It is spicy, newsy, interesting, and contains a vast amount of valuable information. Its reviews are gotten up on a new plan that we would hardly care to adopt in the BULLETIN, but we shall see how it will take with the *Journal's* new subscribers. Dr. Gould can always be relied upon to give good things to his readers. The present number well represents his skill, originality, and versatility. We wish the new venture the very best of good fortune.

It is sincerely to be hoped that the State-rights ideas of some Southern medical men will not interfere with the attempt to secure a National Department of Health. Epidemics of disease know no State limits, and their suppression must be attempted on a different plan from that lately pursued in connection with yellow fever or commerce will continue to be in danger of periodic paralysis and death ride triumphant through our country. By all means let us have the co-operation of an undivided profession in seeking for recognition in this direction.

We observe that Senator Gallinger is again on the war-path. His antipathy to scientific methods in developing medicine is so strong that no amount of persuasion on the part of his colleagues can get him to let the antivivisection bill die of neglect. The *Congressional Record* of Dec. 15, 1897, contains the following item of interest:

MR. GALLINGER—Mr. President, while I think it is a vicious habit that the Senate has got into

of making certain bills the unfinished business several months in advance, I do not rise to object to the request made by the Senator from South Dakota, but simply to say that during the last Congress, from the Committee on the District of Columbia, I reported unanimously a bill for the further prevention of cruelty to animals in the District of Columbia. Upon solicitation from several Senators, saying that they were receiving letters from their constituents protesting against the passage of the bill, I allowed it to drift along, and did not ask for the consideration of it. On the 13th of May, 1897, the bill was again reported and is on the Calendar. I simply rise to say that, while I shall not object to the request of the Senator from South Dakota—because I never object to his requests—at an early day I shall move to take up that bill, which is Senate bill 1063, Calendar 136. I trust that when I ask the consideration of the bill it may not be objected to, but that that matter, which to my mind is extremely important—and a controverted matter, I will say, on the part of physicians, scientists, and humanitarians—may have a fair discussion and that we may have a vote of the Senate deciding whether or not that bill shall pass this body. That is all I care to say.

Surely the members of the medical profession in Dr. Gallinger's State cannot have done all in their power toward teaching him a little political common sense. What has the State Association done to try and put a quietus to his pernicious activity against their interests? Cannot the doctors of his State bring their interests to bear in teaching his supporters the folly of his course. Show him and them that if successful in his object he will have committed political suicide. He is a man well advanced in years, and this idea that is now dominating him to the verge of insanity is a reversion to his early inculcated prejudices against what he calls "Allopathic Doctors." It is his old Thompsonian instinct cropping out and making him still believe that no medicine is any good that is not a "specific yerb." We would again urge upon our readers the desirability of writing to their respective Senators and asking them to vote down S. B. No. 1063, Calendar No. 136.

The Christian Scientists have received what to them is a rather serious set-back in the State of Pennsylvania. They wanted a charter for the First Church of Christ Scientist, which the Court refused to grant. The judge distinctly declared that if they were a purely religious and teaching body the Constitution would guarantee perfectly their liberties in such directions, but when they wanted a charter to give them the privilege to violate the laws of the State, no such charter could be granted. He showed that for them to treat smallpox, consumption, cancer, or scrofula would be a violation of the act of March 24, 1877, that demands a proper education of every person who undertakes to treat disease. The judge said:

"It is possible that the method proposed is correct, but the most important of truths that run counter to long-established and popular currents of thoughts must ever pass through a period of test and trial before they are accepted. Reforms are proverbially slow. It may be, as we are told in 'Science and Health,' that to look a tiger in the eye with faith is to send him frightened into the jungle; but men, as they are at present informed, are most apt to rely, however mistakenly, upon rifles. For the treatment of the disease called trichinosis, which is caused by animalculæ breeding in the body and feeding on the muscles, they depend upon something which may destroy the creature rather than upon a faith, however sincere, that its ravages will do no harm should they in the lapse of time become convinced by the teachings of 'Science and Health' that their course is erroneous." Judge Pennypacker deserves the thanks of the community for the able and wise opinion which he gave in rejecting their appeal. It is sincerely to be hoped that the precedent thus established will be followed in other States where they seek recognition. What right have they to ask for a privilege that medical men do not seek? Why should quacks expect privileges men of sense do not seek? The education-test is as fair for one as another. If regular medical men must be educated before practising then no one should be exempt. Such people as defend quacks in their fight against education should be asked to say how a knowledge of the body and its laws can ever hurt any person, however divine the gift of healing they may possess.

PUBLISHERS' DEPARTMENT

IMPERIAL GRANUM

December 6, 1897.

John Carle & Sons, New York City, have received the following:

Gentlemen—You can be assured that I will prescribe the Imperial Granum, whenever there is an indication for prepared food, because I had sufficient confidence in it to give it to my own child, and it agreed with him perfectly, and he has increased in size and weight to an astonishing degree. — M. D.

Physicians can obtain samples of this celebrated prepared food free, charges prepaid, on application.

OPHTHALMIA NEONATORUM

The law of many States requires the obstetrician to use prophylactic measures to save the sight of newly born infants. A thorough cleansing of the conjunctiva with a 25-per-cent. solution of "Palpebrine" and the application of a few drops full strength into the eyes shortly after birth has been

recommended. Many physicians make it a routine rule to use "Palpebrine" even if there is no evidence of liability to infection. "Palpebrine" is an antiseptic, germicidal, and slightly astringent solution. The Dios Chemical Co., St. Louis, will mail sample and formula on application.

McARTHUR'S HYPOPHOSPHITES

The McArthur Hypophosphite Co., Boston, Mass., is constantly in receipt of testimonials from doctors throughout the United States, stating that they have used McArthur's Hypophosphites in their practice with good results. Following is one of the many letters received by them:

Telford, Tenn., March 15, 1897.

"I have been prescribing McArthur's Syr. Hypophos. Lime and Soda Comp. for several years. I was induced to begin its use on the recommendation of the late Prof. John S. Lynch. In properly selected cases it has given me satisfaction. I think it eminently entitled to the confidence of the profession."

(Signed)

R. L. PATTON, M. D.,
U. S. Exam. Surg.

Upon written request literature and free sample will be forwarded to any doctor, by the above-mentioned firm.

COD-LIVER OIL.

Parke, Davis & Co., Manufacturing Chemists, Detroit, Mich., have issued an elegant illustrated pamphlet, entitled "The Lofoten Islands and Their Principal Product."

It treats of the cod-fish industry of the islands and the manufacturing of cod-liver oil.

Any one who has not received a copy can procure one by writing to P., D. & Co.

CHUTMUCK SPECIAL

The Missouri Pacific Railroad Co. announces that it has arranged to run an extra through train from St. Louis to Denver, which will be known as the "Chutmuck Special," to accommodate those attending the meeting of the American Medical Association at Denver in June.

It is claimed that this will be one of the hand-somest trains ever run in the West, and no pains will be spared to make the journey as comfortable and interesting as possible.

The route is via Kansas City, Pueblo, and Colorado Springs. See advertisement in this issue.

Schedules, dates, etc., will be supplied later. Special information will be furnished by H. C. Townsend, General Passenger Agent, St. Louis, Mo.

CHEAP FARMS

The Chicago, Milwaukee & St. Paul Railway can put you in the way of getting fine farm lands in South Dakota for \$10 per acre and upwards, one-third cash, balance on easy terms. Send for descriptive list of lands and for free illustrated pamphlet on South Dakota containing numerous letters from farmers in the finest agricultural and stock-growing Western state.

Address Geo. H. Heafford, General Passenger Agent Chicago, Milwaukee & St. Paul Ry., Old Colony Building, Chicago, Ill., or H. F. Hunter, Immigration Agent, 291 Dearborn St., Chicago, Ill.

NEWS

The Massachusetts State Board of Registration has engaged Detective Enwright to ferret out all violations of the medical law. One Augustus R. Gilman, a "magnetic physician," was among the first arrested.

An Idaho stockman, named Paul, undertook to shoot Dr. Turner, of Cottonwood, Idaho, for refusing to attend his son in illness. The doctor had two fingers shattered by a bullet, which he was fortunate enough to save his body from receiving by raising his hand in time to turn aside the weapon.

Dr. W. S. Thorne, ex-president of the Medical Society of the State of California, in a letter lately addressed to the Board of Regents of the University of California, says that in Germany, the birthplace of Hahnemann and the home of homeopathy, there is not a college or a faculty teaching homeopathy within its borders. The San Francisco County Medical Society gives the following reasons why the State University should not recognize this school as a distinct branch in its teaching:

"The homeopathic school of medicine has no representation in the armies and navies of the world, nor in any branch of the national medical service, nor are its representatives found in the service of the great railway and steamship lines, nor are they employed as medical examiners or referees by life-insurance companies, nor in city, county, or State institutions. The homeopathic school of medicine is not recognized as such by scientific societies, at home or abroad, nor have they representation in any recognized teaching institution, save two in the United States. The homeopaths have not made a single advance in scientific knowledge since their foundation, eighty-seven years ago."

According to the new medical law of Iowa after January 1, 1899, no one can practice medicine in that State except after examination by their board, and no one will be examined unless they have a diploma from a medical college that demands four full courses of study of not less than twenty-six weeks each and in separate years. The diplomas of all colleges that accept pharmacy, dentistry, and veterinary students on reduced time will be rejected. For the coming year anyone, whether a graduate or not, can come up for examination. The fee for a certificate is \$5 and for examination \$20. Physicians who successfully pass the board can get an itinerant's privilege by paying a license-fee of \$250 per year.

The American Association for the Study and Cure of Inebriety held its twenty-seventh annual meeting in Boston on December 8. The attendance is reported as being small. Dr. Mason, of Brooklyn, was re-elected President for the ensuing year, and T. D. Crothers, of Hartford, as Secretary and Treasurer. Dr. Crothers, before making his report for 1897, gave a running sketch of the work of this and other societies in the study and cure of inebriety. He said there are now six journals published in this country and Europe devoted to this work. Many restorations of drunkards had been made. It had been shown that drunkenness was a disease rather than a crime, and that the ravages of the drunkard's body attributed to alcohol were in fact due to bacteria. The presence of alcohol in the system lowered the vital forces so much that it made the body an

ideal culture-bed for bacteria of many kinds. He advised the association to try to extend its work by means of increased membership. Dr. Mason, in his annual address, said that their society had in its time to fight the medical profession, the church and the pulpit in defense of its stand that inebriety was a disease. The Church told them that it could not be a disease, as the scripture declares that no drunkard can enter the kingdom of heaven. The State told them that to claim that it is a disease takes away a man's responsibility. Now, he said, nearly everybody agrees with them.

Pruritus Vulvæ

At a recent meeting of the Hunterian Society (*Brit. Med. Jour.*, No. 1925, 1897) Dr. G. E. Herman said that though pruritus was a common complaint, yet it was important, as it caused great local suffering, and, indirectly by preventing sleep, injury to the health. He divided the causes of pruritus into five classes: (1) Adventitious, due to pediculi, dirt, worms, pessaries. (2) Skin-diseases—eczema, herpes, furuncle, follicular, urticarial, and diabetic dermatitis—which had been shown to be due neither to saccharine urine nor to sweat. (3) Irritating discharges—gonorrhea, cancer, senile endometritis—and also cases where no visible discharge was seen. (4) Venous congestion, due to heart, lung, or liver disease. (5) Nervous. In class 1 he advised white-precipitate ointment for pediculi; absolute cleanliness and changing of material of pessary. Class 2. Eczema usually affected fat elderly women and those who were pregnant; possibly it depended on a parasitic micro-organism; in diabetes it was especially frequent. Treatment in the former consisted of warm hip-baths with Wright's liquor carbonis detergens added, and powdering the parts with boric acid. In the latter general treatment was required. Herpes zoster was not amenable to any kind of treatment. Follicular pruritus was best treated by squeezing out the contents of the follicles and applying a germicide lotion, such as corrosive sublimate 1 to 2000. Urticaria was very rare. Class 3. Irritating discharges should be treated by sedative and antiseptic washes to the vagina, followed by sedative powders to the vulva, such as a saturated solution of borax and dermatol powder and boric acid. When these failed, a strong carbolic acid lotion, 1 to 7, would in some cases completely cure or give great relief. Class 4: Pruritus was found in pregnancy and in corpulent persons with varicose veins, and those suffering from heart, lung, or liver disease; the treatment was practically the same as in class 3. In class 5, pruritus in aged women was sometimes a symptom of degenerative changes in the nervous system, and the treatment usually failed.

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EDITORIAL

INTELLECTUAL DETACHMENT IN THERAPEUTICS

THE human intellect must of necessity err because in itself it is not capable of perfect reasoning, and because in almost all cases it has to make judgment upon partial, imperfect, or incorrect premises. A more fertile source of error is, however, to be found in the effect of preconceived opinions, emotional excitement, intense desires, or other influences directly connected with the personality of the individual.

The old adage that every man sees the world through his own spectacles is a terse expression of a truth which ought to be remembered by every man in judging of the probable accuracy of his own judgments. Intellectual detachment, the power of separating the judgment from the personality, or isolating—so to speak—the intellectual cells of the cerebral mass from the rest of the organism is a quality of the greatest value and importance, which is possessed in very varying degree by different individuals. The partisan, the reformer, all those men and women who energize the world into action, are usually devoid of this quality of intellectual detachment. By virtue of the domination of their intellectual powers by their own emotions and preconceived ideas

they themselves gain a unity of purpose which enables them to give forth the force that is necessary to the setting in motion of great masses of people or great waves of thought. They see but the one thing that is to be done; unconsciously they shut out all facts and all reasonings that shall make them doubt the truth or the importance of their belief or to hesitate as to the propriety of any act. They become a power because of the sincerity and concentration that are produced by one idea which shuts all light and truth not bearing in the one direction.

The judicial mind, on the other hand, is valuable in its work just in proportion as the individual possesses the power of intellectual detachment. The correctness of the decisions is almost in direct proportion to the freedom of the intellect from the influence of personal emotions and desires, of preconceived opinions. In the pure light of reason there is no place for the side-lights which distort images or throw a glamour over a stage.

We do not think it is hard to decide which attitude of mind is that which should be habitually held by the physician. Upon his judgments hang the issues of life and death, and just so far as a man is biased by his personality and by preconceived ideas is his judgment apt to be fallacious. It makes no difference whether the preconceived idea or the dominant emotion is in itself good or bad, the results are the same so far as the

judgment is concerned. Hence the reformer is, in just so far as he is a reformer, not a good physician. It may well enter into the judgment of Dr. A—as to the actual giving of a certain remedy, what its moral effect may be; but such consideration has no business to enter into his judgment as to what the physical effect of the drug or substance is. Chastity is a virtue of supreme importance, but this fact should not enter into the decision of the physician as to whether chastity is good for the health of men and women, though it might very well enter into the decision as to whether he should or should not advise unchaste sexual relations to a certain patient.

Even, however, in giving advice to a patient the moral question ought not to be allowed to obtrude itself except under exceptional circumstances. Most patients have a right to know whether a given stimulant or course of life will or will not do them good, and then to decide for themselves the moral and financial questions involved in the taking of the stimulant or following out the course of life.

Into most therapeutic questions moral considerations scarcely enter, but the use of alcohol certainly is liable to be improperly halted by the zealot and reformer.

The intensity and extent of the alcoholic curse is such that one does not wonder that men lose their power of judgment and of observation under the intense influence of the horror of the ruin which the familiar poison works in the human race. Yet if truth and not error should be taught, indeed, if it be the best education to teach the love of truth, then even school-books should deal with the truth as it exists, and not with the truth viewed through a moral rather than a scientific atmosphere. To teach error that good may be achieved is to do evil that good may follow—and the result must in the long run be of doubtful value. In the *Philadel-*

phia Medical Journal, January 15, is an article directed against the use of alcohol in disease, in which with excellent rhetoric are discussed the horrors of alcoholism, and in which the judgment is reached that alcohol is of no use in the treatment of disease; in which, moreover, the unconscious domination of the intellect by an idea or feeling is most forcibly shown by the misstatements and misrepresentations of the views of certain authorities upon the physiological activities of alcohol. We have not the slightest intent to impugn the conscious honesty of Dr. Didama. If, however, he had possessed more of intellectual detachment his contribution to therapeutic literature would certainly have been more accurate and valuable. His error is the natural, almost inevitable, error of the reformer.

The question whether alcohol does or does not good in a case like typhoid fever is a purely scientific one, having no moral side whatever; and the answer to it of the man who is daily overwhelmed by his love of alcohol will probably not be any more or less correct than the answer of the man whose life is dominated by an almost personal hatred of the poison.

The alcoholic problem, so far as disease is concerned, belongs to purely scientific therapeutics, and in endeavoring to settle it let us strive after intellectual detachment.

ARTIFICIAL DETERMINATION OF SEX

THERE is nothing so fatal to medical progress as newspaper sensationalism. Science is a plant that cannot be subjected to hot-house methods of stimulation during its growth without the most disastrous results.

When medical discoveries are unfortunate enough to come under the eye of newspaper reporters, and to be published with startling headlines, nothing but harm ever results. It was thus with tuberculin. It

was thus with glandular extracts. It is sure to be thus with whatever the newspapers touch within this domain. The scatterbrained are stimulated to imitate experts and thus bring discredit upon work that as far as it has gone may be unimpeachable. Fools are still willing to rush in where angels fear to tread. A chance is given the advertiser to evade the code of medical ethics and get an abundance of free notices. Quacks and pretenders are enabled to pose as discoverers and the more easily to delude the public. The average man cannot judge between good and bad scientific work. The reporters, as part of the public, are not always prepared to tell the difference between the sound and the spurious. When the very best work of the best men is given them they rarely report it properly, and their failure to give the true statement, together with their misleading headlines, makes the whole matter aggravatingly misleading. It is seldom safe to trust to anything pretending to be scientific, if the least technical, when it appears in the form of a report in a daily paper. Where the matter is such as any intelligent man might understand, of course it is different. There a critical survey of what is said is likely to give some idea of the subject.

The latest sensation of the hour is an interview with Professor Schenck, of the University of Vienna, regarding what is reported as his discovery of the cause of sex. Until Professor Schenck's sealed paper on the subject to the Vienna Imperial Academy of Science has been published, there is really little known on which a safe judgment can be based concerning his claims. The sum total of all he told the reporter is that he knows how to direct the development of the embryo so as to give it what he claims to be a proper number of red blood-cells to make it a male. He feeds the mother some

suitable form of diet. What that diet is, how he gives it, or what precautions are pursued has not yet been told. He states that he can tell in advance, from an examination of the expectant mother's "products," what will be the sex of her child. Whether the products referred to are excretions or secretions, or both, the report does not state, nor does it give the slightest information of how the knowledge is obtained by such an examination. Professor Schenck informed the reporter that he could tell whether a given egg would produce a hen or a rooster. Why he mentioned this it is hard to understand, as the feeding of a sitting hen could surely have no such effect upon the coming bird as the feeding of a mammalian mother. The incongruity of this association but emphasizes the fact that it is very unsafe to hold that inferences made from what he is said to have said are in any sense his belief.

Professor Virchow has raised a question that we fear it will be a long time before Professor Schenck can meet satisfactorily if the reporter has at all fairly presented his words. When a mother has twins of unlike sex both have been subjected to conditions of nourishment nearly alike. Why, then, were they not both males? By no artificial methods capable of execution can we ever hope to treat any two embryos in different mothers any nearer alike than twins are treated in a common uterus. If the nutrition of the mother determines the sex of the child, then twins should always be of the same sex, for the mother has the same treatment while carrying both.

That nutrition has something to do with determining sex is a well-established fact, and was known long before Dr. Schenck's claimed discovery. There are many facts that indicate that an unfavorable diet allows a larger number of male germs to develop than female ones. This, however, is wholly

opposed to the reported new theory of Dr. Schenck, which denies the existence of any predetermination of sex and claims to produce whatever sex may be desired.

The professor distinctly says, according to his reporter, that "all former theories and hypotheses have proven false. According to my discovery, the man has no influence whatever on the sex of the child. It all depends upon the woman." There is nothing particularly abstruse or technical about this statement and surely the reporter would not deliberately misrepresent him. How, then, does the professor account for the fact that after a war a larger proportion of males are born than females? Why is it that in Utah under polygamy there was an excess of males? Why is it that every condition that tends to make the energy of the man less than that of the woman gives an increase in males? If we view the problem as one of survival of the strongest under adverse circumstances, it is easy to see the meaning of such facts. If we change our standpoint and take it to mean only the quality of nutrition taken by the mother, it becomes inexplicable. Under all conditions of the case only the averages are altered and that but slightly.

Even Professor Schenck does not seem to claim to be able to make mothers bear daughters exclusively, or to raise largely the production of daughters. The whole tendency of generation is to produce an excess of females under normal conditions. In spite of this normal tendency, anything that weakens the average men of a nation increases the number of males that are born. To maintain equilibrium, nature seems to sow more females and when there is no great struggle for nutrition reaps a majority of the same kind. Once, however, let there come a strain on male vigor and the normal trend is broken and a majority of males results.

AMONG THE EDITORS

THE PAUPER'S LAST POSSESSION

The growth of our medical schools and the increasing stringency of medical examinations have tended to increase the demand for "bodies" for purposes of dissection. In fact, but for the increasing use of "pickles" and the extended employment of preservative substances in preparing the "subjects," the proper study of anatomy would become next door to impossible. A little time ago Professor Macalister made an excursion to a large town some distance from Cambridge to beg a few bodies. He met, however, with but little success. The fact is no board of guardians subject to public election cares much to be concerned in this traffic. The "penny-a-liner" is always with us, and we are not altogether surprised at the guardians declining to do anything which might, even as a remote possibility, bring upon them the odium of dealing so harshly with the strangers within their gates. Perhaps, indeed, it occurred to them that they already had enough to answer for. At any rate, they declined the tempting offer, and in doing so expressed the opinion that if the supply of subjects was a matter of such great importance, the government should take it up. We fancy we see a political party risking an election on such a subject! We have, however, received an interesting suggestion from an "Old Nurse," who evidently is in sympathy both with paupers and with education. She suggests that an arrangement should be made by which a friendless pauper might be able to obtain, while living, the value of his body after death. It is impossible to shut one's eyes to the humorous aspects of this suggestion; but, after all, there is in it a smack of common sense. Why, indeed, should a poor man spend a joyless old age when he possesses such a valuable asset as his own body? Think of the tobacco he could buy and of the comforts he might obtain when he had once made his "little arrangement" with the agent of the medical school. Of course, legislation would be required to make it feasible, or we fear that the guardians would

bag the profits; but, if such an arrangement were made, surely "subjects" would soon become abundant. The prospect of having a capitalist among them would make public opinion in every infirm ward run strongly in favor of such "deals" in "futures," and, while the pauper would get his due, the student would get his body. Quite a mutual benefit! —*The Hospital.*

THE FILTRATION OF MILK

The control of the milk-supplies at its source is a subject which is engaging much attention at the present time; but, while something has been accomplished, nobody can readily answer for the cleanliness of the cows and the milkers at 5 A. M. on a winter morning on small homesteads in the country. The more conspicuous objects, as cow-hairs, are indeed removed by straining through coarse muslin, but a quantity of fine dirt, which would suffice to render a transparent liquid visibly turbid, will probably remain. Some of the dirt to be seen at the bottom of a pail, jug, or even a glass, consists of a mineral dust, but the greater part is neither more nor less than cow-dung—a fact which furnishes an obvious explanation of the myriads of the *Bacillus coli* present in so many samples of milk; yet, strange to say, no one seems to think it necessary to filter milk, though it always contains a vast number of the bacilli, a fraction of which would be deemed sufficient to condemn any water as unfit for drinking, and the known outbreaks of typhoid fever traceable to milk are far more numerous than those attributable to public water-supplies, for milk presents an excellent culture-fluid for the bacilli of the bowel. Sand-filtration of milk on its arrival, whether by road or rail, at the central depot, has been practiced for several years in some cities, as by the Copenhagen Dairy Company and by Messrs. Bolle, of Berlin, whose arrangements, alike for the purity of the milk and for the physical and moral welfare of the persons (over 1000 in number) in their employment, are well worthy of imitation. The filters used in this dairy consist of large cylindrical vessels, divided by horizontal perforated diaphragms into five superposed

compartments of which the middle three are filled with fine, clean sand sifted into three sizes, the coarsest being put into the lowest, and the finest into the uppermost, of the three chambers. The lowest of all is partly occupied by a perforated inverted, truncated cone, which assists in supporting the weight of the filtering material. The milk enters this lowest compartment by a pipe under gravitation pressure, and after having traversed the layers of sand from below upwards, is carried by an overflow to a cooler fed with ice-water, whence it passes into a cistern from which it is drawn direct into the locked cans for distribution. It is the rule of this dairy, also, whenever any epidemic or epizootic occurs in the districts whence its supplies are obtained, to subject the whole before admission to the filter to temperatures first of 160 degrees F., and then of about 220 degrees F., in two apparatus interposed in the course of the pipe supplying the filter. The filtered milk is not only freed from dirt, but the number of bacteria is reduced to about one-third, without sterilizing; the loss of fat is in new milk stated to be small, but the quantity of mucus and slimy matter retained in the sand—which is, of course, renewed every time—is surprising.—*Brit. Med. Jour.*

INDEFINITE TREATMENT

La médecine expectante is becoming one of the most dangerous fashions and follies of the day. The decay of faith in drugs has had a disastrous effect on the regular profession as well as on their patients. It has led students to disregard therapeutics and materia medica in favor of diagnosis and do-nothingism, which latter soon brings on know-nothingism. The divorce of pharmacy from medicine—a most disastrous separation for both arts—led to an ignorance of drugs, and this ignorance has naturally brought about a disuse of them.

Nevertheless the experience of ages remain the same, and if as a mass physicians do not appreciate the fact that *drugs cure diseases*, or do not avail themselves of it, the non-medical public will soon make capital of such obtuseness. If the inquiry is pushed, why patent-medicine vendors

have such success, it is because many of them deserve it. They take great pains to secure a recipe for some common complaint, they purchase the purest and freshest drugs to compound it, and they assert and reassert that it will cure such and such a disease. A manufacturing chemist who prepares such preparations explained on these grounds the great popularity of his medicines, and no doubt he is correct. If the regular physician is feeble in his faith in the curative powers of nature's products—the worse for him. The public have such a faith strongly, and are right in holding it.

Another misfortune which attends these lax and drifting notions about therapeutics is that a large portion of the current medical literature of the day, is practically worthless. We have huge volumes written on the Practice of Medicine which do not contain a single recipe. The directions for the use of remedies are wholly omitted, or stated so vaguely that they are next to worthless.—*Massachusetts Med. Jour.*

HOMEOPATHS

Any attempt to argue the merits of the repeated pleas of homeopaths for more recognition, especially by State, national and municipal government, is made difficult by the lack of antitheses. We have to contrast a school or sect, with what is not a school but the very profession. The sect essentially is founded on dogma, and the dogma of one individual. It becomes inconsistent immediately it attempts a departure, it attacks its own right to existence whenever experience compels it to abandon some article of its original creed.

The profession, on the other hand, is no man's creation. It has no dogma, and in the nature of things it can have none. If a vast majority of practitioners should vote that some medical theory was correct, that theory would not be binding on a new member, nor on the old, the next day. The regular practitioner repudiates and may sneer at a homeopathic medicine, but there can be no official and dogmatic opposition to its use. The physician doubts the general applicability of the law of similars, but he has not the slightest objection to using a drug

which apparently, or, for the sake of argument, let us say, actually—acts in this way. He wants to give a small dose just as much as, or more than, the homeopath. In a limited experience, we have found that he often does give a much smaller dose than the latter. He has taken the homeopathic notions of drug-proving, and of the itch-mite as a cause of internal disease, and elevated them to the positions of sciences—pharmacology and bacteriology. To put the matter plainly, the real conflict between the profession and the homeopath is not one of theory. Impersonally considered, the physician is not at all a man theory-bound. He may hold them, but only tentatively and as working hypotheses. He may even believe in a theory and yet in practice often find it necessary to go counter to that theory. Physicians and homeopaths cannot be expected to work harmoniously in ordinary practice, or in insane asylums or in government services, or to join forces in teaching medicine, simply because the profession cannot accept the dicta of Hahnemann as safe, reliable, or responsible bases of practice. In an exaggerated degree, he must always have for the homeopath the feeling that he has toward the unfortunate of his own fraternity who, well educated and ethical, lacks the horse-sense necessary to the welfare of his patients. On the other hand, if, as not infrequently happens, he finds a homeopath so called and so employed practicing medicine on lines repudiated by the very name he professes as distinctive, he cannot, professionally at least, endorse that man as strictly honest. It seems to us that the homeopaths will act most wisely if they submit to the fate which places them in the minority, both as regards numbers and consensus of opinion, and abandon the attempt to force themselves into places where their opinions must clash with others. There are professional and commercial advantages in being in the minority, in any schism, just as there are disadvantages. It is only fair that a man who deliberately seeks the minority or whose mental peculiarities force him to it, should abide by the natural consequences, without considering himself a martyr. This we say in a friendly spirit to

those with whom we are, intellectually, in the utmost disagreement.—*Med. and Surg. Reporter.*

USE DIPHTHERIA ANTITOXIN PROMPTLY AND BOLDLY

The *Philadelphia Polyclinic* has from time to time given what is deemed conservative advice in regard to the employment of antitoxic serum in the treatment of diphtheria. While viewing the new treatment favorably, we urged caution at first in the selection of cases, until the dangers and limitations of the remedy were known. We then, as evidence accumulated, pronounced in favor of the early and sufficient administration of the antitoxin in cases of determinate diagnosis.

As the result of increasing experience and observation, as well as from study of published reports, we are now prepared to occupy and defend the most advanced position; namely, that without waiting for bacteriologic confirmation of diagnosis, every patient who presents clinical evidence of diphtheria should at once receive a "curative dose" of serum, and all children of the household should be immunized by the same agent. Adults should be immunized if likely to be much exposed, and may be immunized if they desire it, even if not specially exposed.

It is important to have a good syringe, and there is now in the market an excellent one, made in Philadelphia by a well-known manufacturer of antitoxin, which is of convenient size, and capable of quick manipulation and complete sterilization. It is of the highest importance to have a trustworthy serum, of as high potency as possible, so that a dose small in bulk shall be large in antitoxic units. The serums made by certain American houses are fully equal to the imported preparations, if, indeed, they are not superior. They are, in addition, more readily obtained, and are likely to be more recent. No preparation that is not standardized should be employed, unless it is the only one available; and in every case the higher the number of antitoxic units per cubic centimeter the easier it is to give an efficient dose.—*Philadelphia Polyclinic.*

CURRENT TOPICS

SKEPTICISM IN MEDICINE

The above is the title of a paper by Dr. O. B. Ormsby (*Med. Rev.*, Jan. 1, 1898), which was read before the Southern Illinois Medical Association, at its twenty-third semi-annual meeting, held at Fairfield, Ill., Nov. 18 and 19, 1897. The paper is principally a reply to Dr. Elmer Lee's article on "The Influence of Drug Impressions—A Study in Empiricism" (*Med. Times*, Aug. 1897). Dr. Lee says: "All the ills to which flesh is heir can (if curable) be treated successfully by hygienic methods. When health is lost it is folly to complicate the case or render it hopeless by drug substances." In another part of his article he also says: "Confusion arises frequently when an attempt is made to discover the relations between cause and effect, so that it is never certain in the minds of those practitioners who depend upon chemicals for the cure of the patient, which is the symptom of the disease and which that of the drug." "If he is right," says Dr. Ormsby, "if all our theories and all our experiences for hundreds of years are worthless, and we are simply imposing on mankind, ourselves included, let us be thankful for the light which has at last been permitted to shine on us. But the *ipse dixit* of no one man should be received as conclusive proof of the truth of the assertions found in this article. Prove all things, but hold fast only to that which is good. We are certainly all free to confess that drugs are very often used too freely, even recklessly; but that is very far from proving that drugs are unnecessary or harmful in the cure of disease. Our author lays great stress on hygiene—by means of hygiene we can cure any curable disease. But what is hygiene of the human body but a state of health. If we can fill a man up with health he will not be ill, and if we can then place him in a hygienic environment he will remain well.

"Dr. Lee also objects to the use of drugs because confusion arises on account of inability to distinguish between the symptoms of the disease and those produced by the drug. Did he never give an emetic in spasmodic croup, and if so, was there any doubt regarding the symptoms produced by the drug and those of the disease? Compound cathartic pills seldom constipate the bowels. I have seen opium given in gall-stone colic and had no difficulty whatever in assigning the different symptoms to their respective sources. It is probably true that in rare instances and in complicated cases there may

be difficulty arising from the sources he mentions, but these constitute the exception and are not at all the rule. In this part of the country our diseases, as a rule, produce distinct, pronounced, and often unmistakable symptoms which we have no trouble whatever in separating from drug symptoms and assigning to their proper origin. The people whom we are called to treat have few imaginary diseases, and their ills do not yield to placebos but require appropriate, and often active articles!"

Dr. Ormsby criticizes another article by Dr. Lee, in which the latter says: "Sometimes I have stood a moment before a store-window laden with a wealth of fresh, delicious fruit, and then a moment in front of a shop filled with chemicals said to be useful in the presence of danger of death, aware that sickness is actually caused by an absence of these fruit-juices in the system, a wise use of which would naturally and speedily restore the organism to health by supplying the elements of nutrition in the highest perfection." He also says: "The variety of fresh chemicals organized by nature afford an endless list of therapeutic agents which can only do good and never harm." A little further on he refers to a well-known treatise in these terms: "With a modern fiction like that of Bartholow's practice," etc. "Now I wish to ask," said Dr. Ormsby, "can any member of the association tell me how many oranges it will take to break up an ague, or how many bananas will be required to cure a case of membranous croup? Were it not for the responsibility resting on us as practitioners of medicine we might smile at the absurdity of such utterances and pass them, but we are too often called to the bedside where we must act—act quickly, vigorously, and intelligently, the alternative being the death of a human being. And not only on us, the older members of the profession, does this responsibility rest, but the very youngest member of the fraternity may at any moment find himself confronted by a duty so imperative and a danger so imminent, where a life may be sacrificed by the indecision and hesitation born of such utterances as these we have been considering. Empiricism comes in for condemnation without qualification or mercy, yet empiricism taken in its older and better sense of experience has been the very foundation of all the progress the human race has made. Experience has led the way to nearly all scientific discovery, and by the test of experience such discoveries are tried, and either stand or fall. This is true not only of drugs, medicines, and systems of practice, but it is true of all things with which we are in close contact. An enlight-

ened empiricism, by which I mean medication guided by the light not only of our own, but also of the known experience of others, and in conformity with all we have been able to learn of the behavior under varying circumstances of the living cell-activities, and all that we know of the influence upon disease germs and processes of our medicinal agents, in my opinion is, and always has been, and always will be, our best means of combating diseases." G.

POISONING AS A PROFESSION

In a recent number of the *Indian Lancet* appears an extensive article on the above subject. The writer, after making a few general remarks, tells us that in the early Christian era so many took up this calling that it was easy to secure the services of a professional poisoner. Indeed, the administration of poison became so general in the higher ranks of life that there was danger in partaking of food or drink at the tables of friends or the nearest relatives. During the period called the "dark age of Europe," professional poisoners became very numerous, some of whom were called men and women of the baser sort., as distinguished from their more prosperous fellows; to the author, however, there seems to be no distinction, they were all men and women of the baser sort. So greatly did poisoning increase and it must have been so lucrative as a profession that, from the fifteenth to the seventeenth century, two great criminal schools flourished in Venice and Italy, where the art was taught as a profession.

Early in the fifteenth century the Venetian school of poisoning became famous and produced a mania for poisoning, and to such a height did this mania rise, that the government of the States of Venice gravely considered the matter, and formally adopted and recognized the secret assassination by poison, and considered it a potent and useful agent for the removal of emperors, princes, and nobles who might be inimical to the government. A little consideration of the matter, says the writer, will show that it was not surprising that the mania should have reached this height, for we know, even in our own time, what a powerful force a popular mania is, and how uncontrollable it becomes when once it breaks bounds. There is the morphia mania of our day which, unless it can be restrained, will become the scourge of mankind; then, there are many popular harmful manias whose recent growth has been so great as to be a menace to our race.

Admitting the fact that the development and growth of popular manias are, as it were,

ordinary occurrences of human life, it then becomes easier to understand the remarkable attitude of the government of the States of Venice towards secret poisoning. The notorious Council of Ten used to meet and consider the plans proposed for the removal of individuals obnoxious to the government. The account and record of their proceedings still exists, and exists in detail, giving the number of those who voted for and those who voted against the proposed murders; the reasons for the assassination are given, and even the sum is stated which was paid the professional poisoner and the individual who committed the crime. The Senators treated the whole matter in an ironical spirit, for when the deed was accomplished and reported, they registered the murder by writing on the margin of their official record the single word "Factum."

It was generally known at the time in Venice that the government adopted the use of poison in removing obnoxious individuals, so John of Ragubo, a Franciscan brother, presents himself before the Council with an offer of a selection of poisons, declaring himself ready to kill any person they might desire to have put out of the way. John of Ragubo was not only a master poisoner, but a master villain; the cool audacity in which he stated his terms was remarkable. He asked for a pension of 1,500 ducats a year, to be paid after the death of the first person he poisoned successfully; and he goes on to bargain with the Council, in the same calm, methodical way, for an increase to the annual sum of the pension for each successive individual that he murdered. This cool, matter-of-fact manner did not startle the members before whom he made his diabolical proposals, for the two Presidents, Girilando Duoda and Pietro Guiarini, placed the matter before the Council, who, after discussion, resolved to accept it, characterizing it as a patriotic offer. John of Ragubo was told that the Emperor Maximilian was the first individual he should kill by poison. This John presented a curious tariff to the Council, as follows:

For the Great Sultan, 500 ducats.

For the King of Spain, 150 ducats, including the expenses of the journey.

For the Duke of Milan, 60 ducats.

For the Marquis of Mantua, 50 ducats.

For the Pope, 100 ducats.

John of Ragubo evidently considered the whole matter as legitimate business, for he adds: "The farther the journey, the more eminent the man, the more it is necessary to reward the toil and hardship undertaken, and the heavier must be the payment."

G.

SELECTED PAPERS

THE WORK OF PASTEUR AND THE MODERN CONCEPTION OF MEDICINE *

By PROFESSOR CHARLES RICHET

Delegate of the French Government and of the Faculty of Medicine of Paris, to the Sixty-fifth Annual Meeting of the British Medical Association

LOUIS PASTEUR was born at Dôle in the Jura in 1821, and at the beginning of his career he gave himself up to the study of chemistry. He became deeply interested in a difficult and important problem—molecular dissymmetry. Here was a question in pure chemistry which would seem to take us very far from medical questions, but it was to lead Pasteur directly to the study of fermentations. If a solution of tartaric acid (in the form of tartrate) be left untouched, a change occurs after some time in the chemical constitution of the liquid, which before Pasteur's time had been overlooked. The original solution has no action on polarized light, but after fermentation this same solution has become capable of deflecting polarized light. Pasteur explained this phenomenon by showing that the original tartaric acid is a mixture of an acid deviating light to the right with an acid deviating it to the left, and that a process of partial decomposition takes place; one of the acids is destroyed and the other is not altered, so that the action upon polarized light, previously masked by the mixture of the two acids, becomes evident. Here we have a fundamental experiment. It is told how, when the young Pasteur desired to show it to Biot, that great physicist who had discovered the phenomena of polarization, the old savant grasped the trembling hand of the young man, and, before beginning the optical examination of the crystals submitted to him by Pasteur, said to him, with tears in his eyes, "*Mon cher enfant*, I have loved science so much that in face of the beautiful experiment which you relate to me I cannot prevent myself from being deeply moved."

The explanation given of this phenomenon at that time was that the tartaric acid

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was decomposed by fermentation. Men were then content to use this magic word which appeared to explain everything, but which in reality told nothing at all. Neither Lavoisier, or Liebig, nor Frémy had been able to discover its meaning, and were reduced to the theory of half-organized matter—a childish conception worthy of Paracelsus.

One of Pasteur's experiments, perhaps the most beautiful which he ever made, demonstrated the nature of this mysterious phenomenon. If a sugary solution of carbonate of lime is left to itself, after a certain time it begins to effervesce, carbonic acid is evolved and lactic acid is formed, which decomposes the carbonate of lime to form lactate of lime. This lactic acid is formed at the expense of the sugar, which disappears little by little. But what is the cause of this transformation of sugar into lactic acid? Well, Pasteur showed that the efficient cause of this chemical action was a thin layer of organic matter; that this layer of organic matter consisted of extremely small moving organisms which increased in number as the fermentation went on. Their growth it is, then, which produces the phenomenon of the transformation of sugar of milk into lactic acid. If, for example, we take a sugary solution in which all pre-existing germs have been destroyed by heat, no lactic fermentation will take place. But if we introduce into this sterile liquid a small quantity of this layer of organic matter, such as can be obtained from any liquid in which normal lactic fermentation is taking place, we shall see the lactic acid again form rapidly in the new solution.

Let us dwell a little on this admirable experiment. Nowadays it seems to us so extremely simple that we can scarcely perceive its importance. It seems to us now, in 1897, that from all time we must have known that an organic solution when heated was sterile, and that a germ would suffice to render it capable of fermentation. But this is a mere delusion. No, a thousand times no! This great fact of the generation of germs was absolutely unknown before Pasteur, and the method of sterilizing liquids and of their inoculation with spores

was revealed to us by Pasteur. It is the nature of great discoveries that they become popularized in a short time, and thus very quickly become elementary. A first year's medical student knows perfectly that which neither Lavoisier, nor Liebig, nor Frémy, nor anyone before Pasteur had been able to perceive. We are always tempted to be ungrateful to great creators, for their creations pass rapidly into the domain of common knowledge; they become so simple that they cease to surprise us. We do not think of being grateful, and we forget the efforts which genius has had to make to wrest the truth from jealous nature. Gentlemen, let us not be ungrateful, let us remember that the recognition of the real cause of all fermentation (the development and germination of organized elements) dates from 1857 and from the celebrated memoir of Pasteur upon lactic fermentation. A new world was then opened to science.

Nevertheless, this memoir of Pasteur's, containing one of the fundamental discoveries of the century, was not welcomed as it ought to have been. At first its importance was not understood, and afterwards absurd contradictions were opposed to it. A whole series of beautiful and decisive experiments were necessary to prove that there was no such thing as spontaneous generation, and that sterile liquids remained sterile indefinitely so long as no germs were introduced into them. Pasteur devoted six years (1857-1863) to the proof of the fundamental fact that "organic liquids do not alter until a living germ is introduced into them, and living germs exist everywhere."

The Microbic Theory of Disease.—A great step yet remained to be taken. This was to determine the evolution of these germs, not merely *in vitro*, but in the living organism. We to whom the idea of parasitism and microbic infection is now so familiar can scarcely conceive that it has not always been thus.

Pasteur, to whom, and to Sédillot and Littré, we owe the word microbe, was the first also to explain to us in his essay on the silkworm disease, published in 1867, the part microbes play in the production of dis-

ease. He proved that the bright corpuscles found in the bodies of diseased silkworms are living germs—a distinct living species, a parasite which can multiply and reproduce itself and disseminate the contagion.

It was therefore with painful astonishment that I heard Professor Marshall Hall recently say that the discovery of the part played by micro-organisms in disease was due to Koch and dated from 1876. Now, ten years before this, Pasteur had published his experiments on *pébrine* and *flacherie*. Davaine had shown the part played by bacteria in anthrax-infection, and the idea of infection and of contagion by microbes in the higher animals as well as in the lower had become a commonplace, not indeed in the medical world, but in all laboratories.

The normal living being follows out its course of growth without the development of any organic parasite in its tissues or in its humors. But if these humors or tissues happen to be inoculated with an organism capable of developing, then this small living thing multiplies, the higher organism is infected, and the whole body becomes, as it were, a culture-fluid, in which the pathogenic microbe propagates itself, a center of infection which scatters the disease by sowing the noxious germs wherever it goes. Thus arose the new conception, profoundly new not only for medicine but for hygiene—disease is parasitism. From thenceforth we understood the meaning of the words "infection" and "contagion," previously mysterious.

The greatest of Pasteur's disciples, Robert Koch, although with some ingratitude he refuses to recognize his master, has only perfected certain points in technique and applied his ingenuity and his perspicacity to the solution of questions which in spite of their practical importance are still secondary. He has not, in fact, been able to do anything new except upon points of detail; all that is essential came from Pasteur himself.

Need I say that this idea of the microbe, of the parasite, has become the basis of medicine? If we take up treatises on pathology written before this prodigious revolution, we shall be astonished by the insignifi-

cance and the nothingness of these very ancient books. Yet they are not really very old, they are dated 1875 or 1880, but as one reads them it seems as though centuries must have intervened between these venerable writings and modern books. I know an excellent article on tuberculosis written in 1878, before the microbe of tuberculosis had been discovered. Well, this article belongs to another age, it belongs no longer to medicine, but to the history of medicine, for it swarms with mistakes and incredible errors with regard to pathological anatomy, etiology, prophylaxis, treatment—in fact, from every point of view.

In ten years medicine has been entirely overturned and remade. It is being remade every day. Every day brings some new discovery in matters of detail, but the great principle is always there, and it must always be attributed to the one initiator.

This is not all. Another new and great discovery was to be made by Pasteur himself, and to constitute the supreme development, the culminating point, as it were, of his life's work. This is the principle of vaccination. By a series of researches, admirable for their precision, Pasteur proved that the pathogenic microbe could be attenuated—that is to say, rendered incapable of causing death. But, though this microbe does not cause death, yet it can produce the disease, a disease sometimes so attenuated as to be almost imperceptible. Now the living being which has suffered from this attenuated disease is protected against its more serious forms, and borrowing the word consecrated by the immortal discovery of Jenner, Pasteur said that we have here vaccination.

Fermentation, infection, contagion, vaccination: here in four words we have the work of Pasteur. What more need I say? Do not these four words possess, in their simplicity, unequalled eloquence?

Can any one longer maintain that the progress of medicine is not due to experimental science? Does not all this knowledge of microbes and of the part which they play in disease imply, immediately and necessarily, immense progress in therapeutics?

Antiseptic Surgery.—To take but one example, I will cite the application of microbial theories to surgery.

There was a time when erysipelas, purulent infection, and hospital gangrene decimated those upon whom operations had been performed, and puerperal infection claimed a terrible number of victims. It seems to us nowadays that the medical profession before 1868 was blindfolded and that their blindness was almost criminal. These are now no more than historic memories. A sad history, doubtless, but one which we must look at coolly in order to understand what science can do for medicine. Left to their own resources, practitioners of medicine during long centuries could do nothing against erysipelas, against purulent infection, against puerperal infection; but, basing itself upon science, surgery has been able to triumph over these odious diseases and to relegate them to the past.

Let me here introduce a reminiscence. When, on the occasion of his jubilee, a great celebration was prepared for Pasteur in the Sorbonne, in the presence of the leading men of science of the world, there was a moment when all hearts were softened—the moment when the great surgeon who was the first to perceive how to apply to the practice of his art the theory of pathogenic parasites, when Lord Lister drew near to Pasteur and gave him a fraternal embrace. These two great benefactors of humanity, united in their common work, afforded a spectacle never to be forgotten, a striking reconciliation of medicine with science.

But the apogee of the glory of Pasteur was the discovery of the new treatment of hydrophobia. No one of his scientific conquests was more popular, and from France and from the whole world there arose a long cry of admiration. Perhaps in the eyes of biologists this discovery possesses less importance than his labors with reference to the fermentations and to vaccination, but for the public this was the chief part of Pasteur's work. And men of science also were forced to admire the scientific courage of Pasteur, who, putting aside the precise methods which he had discovered and

taught, knew how to devise new methods to meet the exigencies of the circumstances, and how to put them victoriously into practice.

Thus was finished the work of Pasteur. He was spared to take part in the triumph of his ideas, and to be a witness of his own glory. If, like so many creators, he had sometimes in his earlier days known conflicts and hatreds and petty quarrels and foolish objections, nevertheless he had not to deplore the ingratitude of mankind. He died full of honors, surrounded by admiration, respect, and love. For him posterity had already commenced when he died.

The Union of Medicine and Science.—And now let us turn back to consider the indisputable union of medicine and science. This, in fact, is what ought to strike us in the work of Pasteur. It is not only in general biology and in the progress of our knowledge that his work is great, it is still more in its immediate practical applications. The great biologists of our century, Lavoisier, Claude Bernard, Darwin, have, without doubt, left behind them work which by reason of its conquest of new truths is not inferior to the work of Pasteur, but these new truths do not lead to any such immediate application as antiseptics, the treatment of hydrophobia, anthrax-vaccination, or the prophylaxis of infectious diseases. Pasteur was not only a man of science, he was also a philanthropist, and there is scarcely one who can be compared with him as a benefactor of humanity except Jenner, who found out how to preserve thousands and thousands of human beings from the most hideous of all diseases.

Further, Pasteur brought back medicine into the true way of science. Even after Magendie, Müller, Schwann, and Claude Bernard, it might still have been asked whether all these experiments establishing so many important truths had really been of any advantage for the relief of the sick. To discover, as did Schwann, that living beings are an aggregate of cells; to prove, as did Claude Bernard, that the liver forms glycogen; to establish, as did Darwin, that living species can be transformed by the influence of long-accumulated variations in

the environments—these are admirable pieces of work, but work in pure science which had not any immediate therapeutic results. Strictly speaking, then it was possible to maintain that clinical medicine did not derive any benefit from such investigations. I do not for a moment believe that this opinion had a shadow of foundation, but before the time of Pasteur it was not so absurd as it has become since Pasteur. Since Pasteur no man can, without incurring the charge of monstrous ineptitude, refuse the rights of citizenship in medicine to experiment and to biology.

And, to speak the truth, men of science and biologists, as though their ardor had been redoubled by the renovation of medical ideas, have during these last ten years made discoveries which have introduced into medical science new elements which clinical observation alone had been absolutely incapable of discovering. I will cite a few examples: the action of the thyroid gland, the Röntgen rays, pancreatic diabetes, and serum therapeutics.

Action of the Thyroid Gland.—Physiologists had shown long ago that the ablation of the thyroid gland led to serious results. Schiff had proved this as long ago as 1857, but the explanation of the phenomenon did not become clear until Claude Bernard, but especially Brown-Séquard, had demonstrated the existence of internal secretions of glands pouring into the blood their products which probably neutralize certain toxic substances. This very naturally led Pascale and Gley to inject into animals from whom the thyroid gland had been removed the juice of the thyroid, and this prolonged their lives. The therapeutic conclusion to be drawn was obvious, namely, to treat the unfortunate subjects of cretinism or of diseases of the thyroid gland by injection of extracts of the thyroid body. You know that the result has been most happy. This new treatment was a true experiment, and, as is the case with so many experiments, the actual result has been a little different from that which was expected. The ingestion of thyroïdin is not only a means of curing goiter and cretinism, but is also a treatment, sometimes remarkably efficacious, for obesity.

The Röntgen Rays.—The discovery of the Röntgen rays excited general enthusiasm, and as a matter of fact it is one of the greatest conquests of contemporary physics. Most assuredly medicine had nothing to do with it. The research was made and the success was obtained in a physical laboratory. Now, you are not unaware that these Röntgen rays have been called to play a part, if not in the treatment, at least in the diagnosis, of diseases, a part the importance of which goes on increasing from day to day. Physicists have discovered the principle; it is for medical men to follow up its application.

Pancreatic Diabetes.—The existence of pancreatic diabetes was suspected vaguely by a clinical physician, Lancereaux, but the means which clinical medicine and pathological anatomy placed at his disposal did not give him the power to solve the problem. In spite of his perspicacity, he could do no more than note a certain correspondence between diabetes and lesions of the pancreas. How could more have been learnt if we had not the resource of experiment? Two physiologists, Mering and Minkowski, have had the good fortune to show that ablation of the pancreas determines glycosuria, to show that here is a pancreatic diabetes, and they have studied its various conditions with great ability.

Serum Therapeutics.—I come now to serum therapeutics, a direct consequence of the labors of Pasteur. This is a mode of treatment born of the experimental method alone. Here again science has done for the art of medicine that which clinical observation, left to its own resources, could never have accomplished.

About 1887 M. Chauveau had shown that French sheep could contract anthrax, and that they are very easily affected by the *Bacillus anthracis*, the microbe of anthrax, if small quantities of the bacillus be injected under the skin. But Algerian sheep seem to be safe from the disease. In vain is the *Bacillus anthracis* injected into them: they do not contract anthrax. They are refractory to this disease and possess a remarkable immunity to it. Having reflected on this strange fact, I framed the hypothesis that

the cause of the immunity of the Algerian sheep, which are absolutely similar from the anatomical and zoölogical point of view to French sheep, depended upon chemical substances contained in the blood, and that in consequence we might hope to confer immunity on French sheep by transfusing them with the blood of the Algerian sheep. It is, however, difficult to make experiments on sheep. Therefore, with my friend Héricourt, who has been throughout these researches my tireless fellow worker, I took animals of two different species, the common victims of physiologists—rabbits and dogs.

Just at that time we had been studying a microbe nearly related to the *Staphylococcus albus*, the *Staphylococcus pyosepticus*, which in rabbits produces enormous subcutaneous swellings when injected under the skin and causes death in twenty-four or thirty-six hours. The dog, on the other hand, seems to be almost refractory to inoculation with this microbe. We therefore attempted to transfuse the blood of the normal dog into rabbits by intravenous injection, but this operation did not succeed, for the transfusion of dog's blood into the veins of the rabbit, even in a dose of only ten grammes, rapidly causes death.

It then occurred to us to resort to peritoneal transfusion in place of intravenous transfusion. In this way we were able to introduce into the organism of the rabbit fifty or sixty grammes of dog's blood, and had the good fortune to see the experiment succeed completely. Rabbits transfused with the blood of the normal dog survived the inoculation of the microbe four or five days, and rabbits transfused with the blood of a dog vaccinated against the microbe did not die, and were in fact hardly ill at all.

This experiment, which was made November 5, 1888, is, it seems to me, the very basis of serum therapeutics. It in fact proves that the blood of animals refractory to a disease contains chemical bodies which counteract the effects of the specific pathogenic microbe of the disease. We understood its importance from the first, and, having established the general pathological principle, we resolved to apply it to a disease of man.

For several days, then, Héricourt and I debated the question whether we should experiment with one or other of the three diseases—anthrax, diphtheria, or tuberculosis. Unfortunately, we decided for tuberculosis. Its microbe is easily cultivated and, as you know, it produces greater ravages among men and animals than any other disease. We set to work at once, but, as you will understand, time was required before we could obtain definite results. Still, in a year's time we were able to show that the injection of dog's blood into rabbits retarded enormously the development of tuberculosis. It was, nevertheless, necessary to pass from experimental physiology to human therapeutics. Taking advantage of an observation of Bouchard's to the effect that the serum of refractory animals is as active as the whole blood, we were able to inject the serum in tuberculous diseases. The first sero-therapeutic injection was made by us on December 6, 1889.

At first we had for a space great hope. Yes, in truth, for several weeks we believed that we had discovered the heroic treatment for tuberculosis. For several weeks the various patients that we had under treatment found that their strength was renewed, that their appetite returned, that their weight increased, and that cough and expectoration disappeared almost completely. But, alas, it was no more than a transient improvement. A month or a month and a half later the pitiless disease resumed its course, and the sero-therapeutic treatment turned out to be inefficacious. Happily, while by the most diverse plans we were in vain searching for a method of treating tuberculosis by serum, a German experimenter, Behring, after studying the effects of the serum of refractory animals upon diphtheria, showed (in 1892) that his serum is wonderfully efficacious in the treatment of the disease. He applied the serum method of treatment not only to diphtheria, but also to tetanus, and, at first in animals and afterwards in man, he obtained results which were really marvellous. Gentlemen, you know the rest, and I need not tell you that this sero-therapeutic method, improved and popularized by Roux in 1894, is now a treatment without compare. The statistics

on this head are absolutely conclusive. The mortality of diphtheria, which was 45 per cent., has fallen to 15 per cent. That means for the city of Paris alone an annual saving of about 1,000 human lives; for the whole of France nearly 10,000 lives. We may take the same proportion for Italy, Germany, England, the United States, Canada, and Russia, and may estimate the number of infants which serum therapeutics snatches from death at about 50,000.

Thus, on whatever side we turn, we find that medicine has always been guided by experimental science. By experiment and by science it is compelled to march forward. This was true in the time of Harvey, for that immortal physiologist had to meet the opposition of physicians. This was true also in the time of Lavoisier, when by a few decisive experiments he proved the chemical nature of the phenomena of life. But how much more true is it at the present time, since Claude Bernard and, above all, Pasteur have by experiment laid open a whole world and have warranted us in conceiving the widest hopes for the future of medicine.

The parts of the man of science and of the physician are very different. The physician ought to be conservative, applying methodically the teaching and the precepts which he has received. He has no right to experiment upon his patients, or to permit human life or human suffering to be risked on fantastic theories. But the man of science ought to be a revolutionist. He ought not to be content with the doctrines which he has been taught. The opinion of the master ought to be but a light weight upon his mind. He ought to seek on every hand for facts which are new and even improbable. Darwin says somewhere that he had made the experiments of a fool, and often it is right to attempt that which appears contradictory to all the most received and classical opinions. Without the spirit of adventure, without this scientific daring which opens up new horizons, there is no progress.

The task of the explorer or of the pioneer is not that of the physician. He ought to be careful to keep himself abreast of all scientific progress, in order that his patients

may have the benefit of it, but he cannot advance the progress of science save within restricted limits. Having no right to experiment, he is almost powerless to solve the difficult problems which arise.

It is the duty of the chemists, the physicists, and, above all, the physiologists, to guide medicine into the new ways. They have not to take the heavy responsibility of a human life upon their shoulders, and nothing ought to check their audacity. You, gentlemen, have not the right thus to be audacious; you need prudence and moderation, and, convinced as I am of the power of experimental science, I still think that the applications which the chemists and the physiologists suggest to you should only be accepted with considerable caution. It costs us nothing, after a few experiments which have succeeded fairly well, to say to the physician, "Try that on your patients." You know very well that our responsibility is *nil*, and that the ancient axiom *primo non nocere*, an axiom which ought to be your strict rule of conduct, does not in any way apply to us. You see, therefore, that it would be unjust to make it a matter of reproach to physicians and surgeons that they have not made great scientific discoveries. This is not their mission. It is theirs to relieve human suffering and to seek among new scientific truths that one which is most proper to relieve or to cure the sick.

Nor can I understand how any one should have wished to create an antagonism between medicine and science. To suppose that they are in contradiction is to show that we understand nothing about either the one or the other. It is not reasonable to assert that the one is superior or inferior to the other; they are different in their means and in their ends. They are mutually complementary, and both are equally necessary.

If I were ill most assuredly I would not seek the assistance of a chemist or of a physiologist, and medicine is not to be learned from the books of Claude Bernard or of Pasteur. Clinical instruction is necessary, such as long observation of patients alone can furnish. Prophylaxis, diagnosis, prognosis, therapeutics, are not to be learned in scientific books. Something else is neces-

sary—observation, long, patient observation, the old Hippocratic observation, without which there can be no good physician. Young students must be guided in the examination of patients by experienced practitioners, and no one, I presume, would be guilty of the folly of proposing to replace the clinical ward by the laboratory.

But without laboratories the clinical department must remain incapable of scientific advance, and this condition of stasis is assuredly undesirable. For in spite of all the progress which has been made, much yet remains to be done. Are not tuberculosis and cancer, for example, the disgrace of medicine? I appeal to all medical men here present. Is there any one of you, gentlemen, who in the presence of such painful modes of death does not feel himself humiliated to the bottom of his soul by his powerlessness?

Well, this feeling of our present powerlessness against disease ought to stimulate us to work. The work to be done is enormous, and we must none of us grow weary of our task. We physiologists must seek new facts, we must seek and seek again, seek always without being afraid of the boldest hypotheses, and without putting any limit to our audacity, without troubling our heads as to the practical consequences which may flow from our discoveries, having only truth, divine truth, for our object. As for you, gentlemen, it is your duty to follow with the warmest interest both the general effect and the detailed results of biological discoveries, in order to attempt to find some practical application for them. From this unceasing collaboration progress will be born. But it is necessary that men of science and physicians should both be animated with these two governing sentiments—faith in science and love of man.

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A METHOD OF PRODUCING IMMUNITY AGAINST TUBERCULOUS INFECTION*

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PREVIOUSLY to undertaking any original investigations in the treatment or prevention of tuberculosis it was necessary to make a number of experiments so as to fully understand the course, terminations, and post-mortem appearances of tuberculous disease when following its usual course after the artificial introduction of tubercle bacilli. To study these phenomena a number of rabbits and guinea-pigs were inoculated by way of the peritoneal cavity, the anterior chamber of the eye, the veins, and the subcutaneous tissues, with the result that the animals died from tuberculosis after the lapse of varying periods—the interval depending on the dose and its mode of administration. During life the chief evidences of the disease were emaciation and fever, the former steadily increasing until death. On post-mortem examination numerous nodules were found in the internal organs, and these nodules, when examined under the microscope, were found to have the typical structure recognized as that of tubercle.

In addition to the infection of the internal organs, those animals which were inoculated in the peritoneal cavity showed a tuberculous peritonitis, and those inoculated in the anterior chamber of the eye a tuberculous pan-ophthalmitis. In these experiments the bacillus of mammalian tubercle was employed and all the inoculations made into mammals were uniformly successful in inducing the disease, but on trying to produce tuberculosis in birds by injections of the same organism the results were invariably negative. In six fowls I injected into the veins doses varying from 1 c.c. to 10 c.c. of a very opaque (almost milky-looking) watery suspension of virulent mammalian tubercle, but the birds remained healthy and strong. After periods varying

*This article is an abstract of the author's Weber-Parkes Essay which received the second award from the Royal College of Physicians of London, and published in the *Lancet*, No. 3870—1897.

from ten weeks to five months they were killed, when their organs were found to be free from tubercle even after careful microscopic examination. Yet repeated outbreaks of tuberculosis amongst birds are on record, and in these instances the disease has spread very rapidly amongst the birds and could only be eradicated by killing all the infected fowls and thoroughly washing the aviaries with antiseptics. In these cases the only methods of infection could be by inhalation and swallowing, and in both these ways the number of bacilli taken at any one time would be comparatively small, and they would be brought into contact with healthy epithelium, either in the lungs or intestine. Yet these few bacilli were able to overcome the resistance offered by this epithelium and gain a nidus in the body, ultimately leading to the death of the infected birds. On the other hand, in the experimental cases above noted, countless numbers of bacilli were injected directly into the blood-stream, and had, therefore, no primary resistance to overcome in the form of epithelium, and yet they disappeared from the body of the inoculated animals without leaving any visible trace.

Still there might be something in the external conditions of these birds which are infected accidentally whilst running about that makes them more liable to infection than those kept in confinement, though the opposite usually holds. To investigate this point five fowls were kept under the same conditions; of these, three had injected 5 c.c. of a watery suspension of virulent mammalian tubercle into the peritoneal cavity, another had the same dose of virulent fowl tubercle introduced into the peritoneal cavity, whilst the fifth was fed on two occasions with food which had 1 c.c. of the same watery suspension of virulent fowl tubercle mixed with it. At the expiration of ten weeks the birds were killed, when those which had been injected with virulent mammalian tubercle bacilli were found free from tuberculosis, whilst the bird which had been inoculated with the virulent fowl tubercle showed numerous tubercles in the viscera, and the one which had been fed with

tuberculous food showed tuberculous nodules of the intestine and a tuberculous ulcer of the gizzard.

The question next arises are both these varieties pathogenic towards man? As regards the mammalian, it is generally recognized that it is virulent to man. That he is susceptible to the bacillus of fowl tubercle is fairly conclusively shown by the following case.

Some time ago when on a visit to the country I was asked by a man who kept poultry if I could give any reason why his birds were dying off, as, so far as he could discover, there was no evident cause. On investigation I found that for considerable time past a fowl would become emaciated and weak and ultimately die. As he was poor, and this meant to him a heavy financial loss, he latterly, when he noticed any of his stock ill, killed them and ate their carcasses after cooking by roasting. On killing and examining one of the diseased birds I had no hesitation in pronouncing the disease to be tuberculosis, and advised him to kill his stock and disinfect their houses and feeding-dishes thoroughly, and on no account to eat any of the birds. On seeing his family a few months later his wife and daughter were suffering from tuberculous disease, the wife of the intestines and the daughter of the lungs, and from this they both ultimately died. In these cases the infection was derived doubtless from the poultry, either indirectly by inhaling or swallowing the germs as they were blown about in the poultry-house, or more directly by eating the carcasses of the birds, which may have been insufficiently cooked. The man himself I lost sight of. If the ejecta of these patients had been eaten by healthy poultry, the bacilli having been primarily derived from birds would doubtless have infected them, and so the disease would have spread; on the other hand, the experiments above recorded show that the sputum voided from a patient the host of mammalian tubercle would be swallowed with impunity by fowls.

Now, if there are two varieties of tubercle, and man is susceptible to both, a culture obtained from a patient suffering from fowl tubercle should show the characteristic ap-

pearances of that organism, cultures of fowl tubercle growing more rapidly and being moister than those of mammalian tubercle. This was actually a strong point in support of the contention that fowl tubercle is only a modification of mammalian tubercle, as hitherto all artificial cultures derived primarily from man have been described as being similar in appearance. Recently I obtained further evidence in favor of a distinction between these bacilli. On opening an abscess and collecting some of the pus to ascertain if it contained tubercle bacilli careful microscopic examination failed to reveal the presence of any germs. A quantity was then injected into the peritoneal cavity of a rabbit. At the end of six weeks, when the animal was killed, tubercles were found scattered over the peritoneum. Some of these were removed with strict aseptic precautions and planted on the surface of glycerin-glucose-agar. No growth was visible for about a week, when a moist white ring appeared spreading out from the implanted nodules. At first I thought I was dealing with a contamination, but I was struck by the similarity of the growth in all the tubes, and on examining the growth more carefully it was found to have all the appearances, both macroscopic and microscopic, of fowl tubercle. I regret that the investigation was not carried further by inoculating birds from the cultures; still, the appearances were nothing like those given by cultures of mammalian tubercle. Only in this one case have I obtained this growth from man; but tuberculosis amongst birds is comparatively rare, and I believe the infection of man with this variety is rarer, otherwise the peculiarities of its cultures would have been frequently observed.

To ascertain if the one variety had any action on the growth of the other variety the following experiments were performed. A number of rabbits had 1 c.c. of a sterilized watery suspension of fowl-tubercle bacilli injected into the auricular vein, the bacilli having been killed by one and a half hours' exposure to steam at 100° C. These injections were followed by fever and emaciation, which soon disappeared. 1. One month

month later $\frac{1}{2}$ c.c. of a very opaque suspension of virulent mammalian tubercle was injected into the peritoneal cavity of several of these animals. To all appearances they remained well, and when killed four and a half months afterwards the only lesion observed was the presence of a number of small pedunculated nodules about the size of lentils adhering to the edge of the liver and the surface of the parietal peritoneum. In no instance did these nodules exceed ten in number. On section they were found to consist of a dense fibrous capsule with calcareous contents, embedded in which were a few tubercle bacilli. 2. Others had $\frac{1}{2}$ c.c. of the same suspension of virulent bacilli injected into the subcutaneous tissues. When killed four months later there was a small focus of caseation at the seat of injection, but neither the lymphatic glands nor viscera were infected. 3. Into the auricular vein of the others 1-3 c.c. of the suspension of bacilli was injected. When killed at the end of three months and their viscera submitted to microscopical examination some of the organs taken from a few of the animals presented a few points of irritation as shown by a round-celled infiltration but without any trace of giant cells or caseation; in the remainder of the animals even these points of irritation were absent. During this experiment some of the animals gained as much as half a pound in weight. 4. An injection of 1 c.c. of the suspension of virulent bacilli into the anterior chamber of the eye of another series of rabbits was followed by a tuberculous iritis, but the tubercles soon commenced to diminish in size, so that at the end of five weeks they had completely disappeared in some cases, and almost so in others. On microscopical examination of the latter the nodules were found to consist principally of calcareous salts. 5. One rabbit had all the above injections introduced, and when killed five months after the introduction of the first it was found free from general tuberculosis. This animal gained one pound in weight during the experiment. In the above experiments the effect of introducing the bacterio-proteids of fowl tubercle into rabbits was such as to modify the fluids or tissues of the animals in such a manner

that subsequent injections of virulent mammalian tubercle even in large doses were prevented from becoming disseminated throughout the body, but remained localized to the seat of primary inoculation. Further, if the bacilli were in a state of fine suspension and distributed over a large area, as follows an intravenous injection, the tissues were able to destroy them, and the bacterio-proteids thus set free produced the small foci of irritation observed in the viscera. As the proteids were removed the inflammatory points disappeared. When the bacilli were in a coarser state of suspension these injections gave rise to a caseous mass which ultimately became encapsuled and impregnated with calcareous salts, embedded in which one could find tubercle bacilli—the remains of those injected. In other words, injections of virulent mammalian tubercle bacilli into these animals behaved in the same manner as dead tubercle bacilli when these are injected into the same parts.

By injecting the sterilized fowl tubercle directly into the blood-stream as a means to prevent the extension of tuberculous infection, one very obvious disadvantage presents itself—namely, the danger of some of the dead bacilli being deposited in some part of vital importance and setting up an inflammation which might have serious results. This I found actually did occur in several instances where the injections were followed by paraplegia, oscillations of the head, etc. On the other hand, subcutaneous injections produced a caseous mass which on being discharged carried with it a large number of the bacilli which had been introduced, consequently the full advantage of the injections was not obtained. . . . On taking into consideration the immunity shown by fowls against infection by mammalian tubercle, I proceeded to ascertain the effect of their serum when modified by the presence, or action of, the bacterio-proteids of fowl tubercle. Accordingly sterilized suspensions of fowl tubercle were injected into the peritoneal cavity of fowls. The injections were commenced by giving 10 c.c. of a sterilized watery suspension of the bacilli, and at each subsequent injection,

these being repeated at intervals of three weeks, the quantity was increased at first by 5 c.c. and latterly by 10 c.c., so that the quantity introduced on the sixth injection was 50 c.c., and the total 165 c.c. After the expiration of the next three weeks the injection of 50 c.c. of the suspension was repeated, and continued to be so every third week. Under this treatment the birds, which during the time occupied by the first three or four injections were emaciated and anemic, came gradually to be able to withstand the action of the later injections with no apparent detriment to health. I next endeavored to find if the serum of the fowls so treated had any effect on the growth of tubercle bacilli, both fowl and mammalian. To do this I abstracted some blood from the fowls, having allowed at least a week to intervene between the last injection of sterilized fowl-tubercle bacilli and the venesection, and not taking any blood until the sixth injection had been given. Having allowed the serum to separate, a quantity of this was drawn into sterilized test-tubes. A number of these were then inoculated with virulent fowl tubercle, others with virulent mammalian tubercle, and then placed in the incubator. After some time there was a distinct growth in the tubes inoculated with the fowl tubercle, but no apparent increase in the number of bacilli in those tubes which had been inoculated with mammalian tubercle bacilli, even though kept for three weeks in the incubator. But here one must be guarded against attributing this want of growth entirely as the result of the previous treatment of the fowls from which the serum was taken, because the fluid serum itself has the power of destroying, within certain limits, any germs which may be introduced into it, and it is possible that the absence of growth was due to this bactericidal property.

Proceeding to try the effect of this serum on healthy rabbits and guinea-pigs I injected 3 c.c. into the subcutaneous tissues of these animals. This was followed in a few hours by a marked rise of temperature, the rise in some cases reaching 3° F. Twenty-four hours afterwards there was a thickening at the seat of injection, and extending

for some distance round this point. The injection was repeated once a week until 15 c.c. of serum had been introduced altogether. During this period the animals lost weight, and this emaciation continued to progress for four or five weeks after the cessation of the injections. The loss of weight amounted in one case to 150 grammes, and in one instance, where a dose of 8 c.c. was given, the animal died shortly afterwards. Sections made from the swellings resulting from the injections of serum were found to consist almost entirely of round cells, epithelioid cells, and a few large multinucleated cells. At other points the sections showed small foci having all the appearances of caseation, whilst at others the cells were undergoing a degenerative change, as evidenced by their staining very faintly. Apart from the caseation the above appearances denote the presence of a chronic inflammation only, but the caseation and degeneration reveal the presence of some substance deleterious to the cells of the inoculated animal. That this deleterious property does not belong to the normal serum of fowls was shown by injecting normal serum in similar doses into rabbits. These injections produced a very slight rise of temperature and very little swelling, but nothing similar to the degenerative changes above described.

In the foregoing experiments the caseation could not be due to the highly improbable event that any of the dead bacilli injected into the fowl having got into the circulation and escaping with the blood withdrawn, were reinjected with the serum into the rabbits and guinea-pigs, because it has been shown that isolated bacilli do not produce caseation. This result, therefore, must be due to something dissolved in the blood of the fowls, or else their serum is so modified that it is able to produce this change, and yet the birds themselves are to all appearances healthy. I now proceeded to try the effects of the serum on the tuberculous animals. For this purpose a number of rabbits were inoculated by the anterior chamber of the eye with virulent mammalian bacilli. These injections were followed by intense iritis, the formation of yellowish spots on the iris, and slight opacity of the

cornea. A fortnight later 2 c.c. of the prepared serum were injected subcutaneously and this dose was repeated weekly for four weeks. At the end of this period the affected eyes were acutely inflamed, the iris in some cases looking like granulation-tissue. After the injections ceased, this condition of intense inflammation improved, and a month later the pupils were distinct and the redness had disappeared from the iris, scattered over which a few yellowish specks could be seen. For five or six weeks the eyes remained in this condition, there being no apparent increase in size or number of the yellowish specks situated on the iris. The injections of serum were then recommenced, the dose being 2 c.c., and repeated weekly for three weeks. As a result of this the nodules of the iris increased in size, but there was no development of any fresh foci. Six months from the injection of the mammalian tubercle into the eyes, the animals were killed. On examination the bodies were found to be well nourished, and, excepting the tubercles in the eyes, the animals were free from tuberculous infection.

The results of these injections show that the serum when injected into a tuberculous animal tends to limit the extension of tuberculosis to parts other than those primarily involved, as evidenced by the absence of any tuberculous disease in the internal organs. Even in parts where the disease has become established before the serum is introduced it has a pernicious influence, as in none of the infected eyes did the tubercles exceed seven in number, although 2 c.m. of an opaque watery suspension of virulent mammalian tubercle bacilli had been injected and six months elapsed between the primary inoculation and the death by killing of the animals. The intense inflammation in the eyes during the period of the first series of injections of the serum, followed by a period of quiescence of the tuberculosis after their cessation, and again the increase in the size of the tubercles during the second series of injections, leads one to the opinion that the serum when injected into an animal suffering from tuberculous disease aggravates the affection so long as the injections are continued; but when time

has been given for this serum to influence the fluids of the body these fluids are able to a certain extent to prevent any further extension of the disease. If this be so, then it would be possible to render susceptible animals immune to the action of the tubercle bacillus by injecting a quantity of this prepared serum and allowing some time to elapse before exposing the animals to tuberculous infection. Hence I endeavored to make guinea-pigs and rabbits immune to the action of the mammalian tubercle bacillus. The animals had injected subcutaneously doses of 2 c.c. of the prepared serum, the dose being repeated every third day until five injections had been given and they had received a total of 10 c.c. of serum. These injections were followed by the usual rise of temperature, swellings, and emaciation, but after their administration had been stopped these symptoms gradually disappeared. One month from the date of the last injection of the serum virulent mammalian tubercle bacilli in watery suspension were injected into the anterior chamber of the eye of a number of rabbits. This injection gave rise to an acute iritis accompanied by opacity of the cornea. These symptoms continued for a few weeks and then gradually diminished, so that by the end of the sixth week they had completely disappeared and no trace of tubercle could be found in any part of the body on making a post-mortem examination. Two months later—that is, three months from the date of the last injection of serum—1 c.c. of an opaque watery suspension of virulent mammalian tubercle was injected into the peritoneal cavity of a number of guinea-pigs. After this injection the animals appeared to remain in their usual health and were all killed in from two to two and a half months after the introduction of the mammalian tubercle. During this period there was no emaciation, as shown by the absence of loss of weight. On post-mortem examination the only evidences of any injection of irritant matter having been made into the peritoneal cavity was in one case an adhesion of the liver to the diaphragm and in another the presence of three small nodules, about 0.5

mm. in diameter, in the edge of the omentum, which otherwise was normal. All the viscera were perfectly healthy and free from any trace of tubercle even on microscopical examination. Sections of the nodules above mentioned showed that they consisted of a dense, fibrous capsule enclosing amorphous matter, lime salts, and fat globules of various sizes. In none of the sections was there any evidence of an active process, and careful examination failed to reveal the presence of tubercle bacilli. The existence of these nodules may have had nothing to do with the injection of the tubercle bacilli; but from their structure it is highly probable that they were the result of the inoculation, though the bacilli had disappeared. Five months after the injection of the serum a number of the remaining animals had virulent mammalian tubercle injected into the subcutaneous tissues, whilst in others the same organism was introduced into the peritoneal cavity. The subcutaneous injections acted in the same manner as injections of dead bacilli into the same situations—that is to say, a caseous mass formed which was discharged without giving rise to any infection of lymphatic glands or viscera. The injections into the peritoneal cavity disappeared without leaving a trace.

How long this acquired immunity will last in animals it is impossible at present to say definitely, but the results of the last set of experiments recorded above show that it is effectual for at least five months. Having obtained the serum of fowls in such a condition that its injection into such susceptible animals as guinea-pigs and rabbits conferred immunity against the invasion of large numbers of mammalian tubercle in a virulent form I proceeded to try its effects when injected into a healthy man. With this object I injected 2 c.c. of the serum into my thigh. This soon gave rise to pain, which extended for some inches round the needle puncture. Eight hours afterwards the part was slightly swollen and the skin over it was distinctly red. This pain, redness, and swelling lasted for four days, and during this period the femoral glands became enlarged and painful. At the end of

this time the above symptoms (with the exception of the enlargement of the glands) gradually disappeared; but two days later—that is, seven days after the injection—pain was felt in the thigh about four inches from the point of injection, the parts immediately surrounding this point being quite free from any tenderness. The skin over the painful part was inflamed. These symptoms continued for three days longer and then disappeared, and at the same time the enlarged femoral glands commenced to diminish in size. During this period the temperature never exceeded 99.4° F. Two weeks after the first injection 5 c.c. of serum were injected into the other thigh. This gave rise in two hours to severe pain at the seat of injection and extending for about three inches round this point. There was also slight swelling of the part. Nine hours after the injection the skin over the part was distinctly red. The temperature was 99.2° and the pulse was 100 per minute. Nine hours later the part was much swollen, the swelling being defined by a red, raised margin. The inflamed part was very tender to pressure. The temperature was 100° and the pulse was 104 per minute. Ten hours later—that is, thirty hours after the introduction of the serum—the skin was very red, the redness extending almost from the knee to the groin and nearly completely round the limb. The glands in the groin were enlarged and painful. The temperature was 100.2° and the pulse was 104 per minute. A few (four) hours later the temperature rose to 100.4°, and there were headache and profuse perspiration. These latter symptoms continued for about eight hours, when they disappeared and the temperature and pulse fell to normal. About the same time the blush over the thigh resolved except from the edges, but the skin was still very much thickened over the affected area. Three days after the injection the limb was almost well, there being only slight thickening round the point of injection. During the whole of this period the femoral glands remained enlarged though painless, and this enlarged condition persisted for six weeks from the date of injection. From the degree of reaction which followed the

second injection I believe that the increase from 2 c.c. to 5 c.c. was too great, and that a more gradual rise in the quantity introduced would be followed by less disturbance.

In man we cannot push the experiment to the test of injecting into his body virulent mammalian tubercle bacilli after the injection of the serum, but we are justified in concluding that if such susceptible animals as guinea-pigs and rabbits are rendered immune by this method against the invasion of large doses of the virulent bacillus introduced into their bodies, man, who is much less susceptible, can in the same manner be rendered immune against the invasion of the few bacilli which may at any one time attack him. I believe this condition of immunity can be attained in man by commencing with an injection of 2 c.c. of the serum, and increasing each administration by 1 c.c. until its influence on the body is shown by a distinct rise of temperature. At least a week should intervene between each injection.

The length of time this immunity so acquired will last can only be definitely ascertained by observations in a large number of cases and extending over a number of years; but even if the immunity should be found to diminish or disappear after the lapse of a number of years this does not reduce the value of the serum as a prophylactic, because the injections can be repeated at stated intervals and the immunity re-established.

So far as my observations go I am unable to claim any curative effects from the use of the serum in patients suffering from tuberculous disease, but I hold, and that most emphatically, that when injected into susceptible bodies it confers on these an immunity against the invasion of the bacillus of mammalian tubercle. Especially do I recommend these injections to be given to persons who have a tuberculous tendency and to those who have a history of tuberculous disease among their relatives. By this means it is possible to diminish, if not altogether to eradicate, tuberculous affections from the race, and as such do I venture to bring it before the notice of the profession.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

Two Cases of Trismus Nascentium Successfully Treated by Tetanus Antitoxin

This disease of infancy has been almost uniformly fatal, and, notwithstanding the fact that all kinds of treatment have been used, has thus far resisted every measure. Nevertheless, Dr. Jacob Friedman (*Jour. Am. Med. Asso.*, Oct. 9, 1897) reports happy results from the employment of the serum-treatment in two cases. One was a girl ten days old, and the other a boy fourteen days old.

In both instances the serum used was of Gibier's make, the product of the New York Biological Institute. One-third of a bottle of serum was used every six hours. As the last injection was given at 6.30 P. M., the child had no serum until 9 o'clock the next morning, when a further injection was given, and as the improvement seemed marked, only one-sixth of a bottle was given at the next injection.

There were no rise of temperature, no abscess and no eruption of any character. Immediate improvement resulted after each injection, and this was more noticeable from the fact that the children were at the worst in the morning. The convulsive movements, or convulsions, were the first symptoms that yielded. In addition to the serum, both children were given from $\frac{1}{2}$ to 1 grn. of chloral every three hours. In both cases two bottles were used, and all the serum was absorbed within six hours.

G.

Alcoholic Maniacal Epilepsy

William Lee Howard, M. D., in the *Quarterly Journal of Inebriety* (Vol. XIX, No. 3), cites the recent cases of Duestrow, Marie Barbella, and Kœrner as having brought forward prominently the rôle alcoholic epileptic mania plays in heredity and medico-legal questions. The subject is also of interest to the sociologist and the physician. It is of importance that the physician should be able to distinguish between drunkenness as a vice and inebriety as an effect of an abnormal, unstable, and degenerate inherited personality.

In this country, where intoxication is no excuse for crime, we recognize two phases of inebriety: acute alcoholic insanity and alcoholic maniacal epilepsy, such forms of insanity are now recognized by leading neu-

rologists and alienists. A small amount of alcohol will put a person of peculiar neurotic tendencies into a state similar to psychical epilepsy. In this condition atrocious crimes are often committed for which the individual is not responsible.

A good example of epileptic insanity is the Duestrow case. This case shows the powerful influence environment and heredity exert in certain cases. Duestrow's mother was the daughter of a saloon-keeper of the lower type, and was in the habit of drinking at her father's place. His father also was an habitual user of alcoholic drinks. The alcoholic habit continued throughout the lives of both parents, and the son, Arthur Duestrow, was given beer to drink when an infant. When Duestrow was 13 his father became suddenly wealthy. Duestrow then commenced a series of dissipation which continued up to the time he committed his repulsive crime.

On the day he murdered his wife and child he was playing with the child (of whom he was very fond), when he suddenly pulled a pistol from his pocket, shot his wife, and then picked up his child and fired two bullets into the little one's brain. He walked out hatless, and was found on the street in a dazed condition. He went quietly to the police station and there made several contrary statements.

Such in rough outline is a typical case of alcoholic epileptic mania. An epileptic maniac, after committing a crime, when arraigned in court will admit his crime, but when, some months later, he is brought to trial he denies knowing anything about the crime. It is a common thing for epileptics to give some inconsistent excuses for their actions; they have no accurate knowledge of what has happened, but have a vague and indefinite idea, and try to excuse their conduct by illogical stories.

A careful study of individuals who have had attacks of epileptic mania would show an abnormal condition of mind and morals in early life, physical timidity except when fortified by alcohol, apprehensions of all vague and indefinite happenings, and an existence, both mental and physical, unnatural to normal human beings.

In alcoholic epileptic insanity the period of anger is preceded by a calm attitude; then comes the sudden period of ferocity during which the deed is done; almost immediate subsidence of the furor, followed by partial or complete ignorance of the act.

In those suffering from attacks of idiopathic minor epilepsy the use of alcohol unquestionably causes maniacal attacks. The knowledge that such attacks are probable should prevent the use of alcohol in any

form by those who have been subject to minor epilepsy.

According to Garnier the offsprings of alcoholic parents are prone during adolescence to attacks of epileptic mania. A certain mental condition accompanies, precedes or follows attacks of minor epilepsy. This is a mental depression, and frequently ends in insanity. R.

Function of the Celiac Plexus

According to *Morgagni*, Oct. 30, 1897, Soldoini, in the *Arch. Ital. di Clinica Med.*, concludes: The quantity of urea contained in the blood of the suprahepatic veins after stimulation of the celiac plexus decreases, while the urea in the hepatic parenchyma increases. The decrease of urea in the suprahepatic veins is due to vascular dilatation caused by the stimulation of the plexus, and the increase in the liver to a greater blood-supply of the organ through the hepatic artery.

The electric stimulation of the celiac plexus has a marked influence on the general blood-pressure, which increases, as is shown by the sphygmographic observation.

The intestinal absorption of glucose is markedly accelerated.

The urinalysis never showed the presence of acetone after the extirpation of the celiac plexus. Only increase in the quantity of urea could be noticed.

The glycosecretory nerves of the liver, demonstrated by Cavazrani, are paralyzed after using atropine. M.

Auto-intoxications

Weber, in the *Post-Grad.*, July, says that the final products of auto-intoxication, as found in the secretions and excretions of the organism are, in general, uncomplicated bodies chemically, water, inorganic salts, uric acid, urea, etc. The intermediary products of tissue-changes, which modern pathologists have paid close attention to, are kreatin, cystin, oxalic acid, grape-sugar, lactic acid, ammonia and others, produced in very small quantities only, and where oxidized or reduced and combined with other substances under normal conditions, may be found in large quantities and absorbed, in cases of disordered tissue-metamorphosis, and then give rise to a variety of morbid symptoms. To assist in the study of the subject, we may distinguish the following order of varieties, in the attempts made to classify them:

1. Auto-intoxications by the various disorders of the gastro-intestinal tract, acute and chronic, functional or organic.

2. Group of auto-intoxications by retention of physiological products and by over-

production of physiological and pathological products of the system: Cyanosis, uremia, eclampsia, ammonemia, acetonuria, coma diabeticum. Though we are pretty well acquainted with the underlying diseases in which such symptoms do occur, we do not as yet know the particular toxin or toxins by which uremia or diabetic coma is produced.

3. Auto-intoxications, by general anomalies of tissue-metamorphosis, and without apparent local disease; uric-acid diathesis, gout, oxaluria, diabetes. Those are disorders in which intermediary products of assimilation and products of regressive metamorphosis are taken up in the circulation.

4. Auto-intoxications through great diminution or entire cessation of organic function, caused by disease of certain glands, with or without anatomical change, most frequently simple atrophy of the glandular structure. One of the most important functions of these organs consists in destroying noxious or poisonous substances constantly produced in the system by tissue-metamorphosis; the glands ceasing to functionate, these constitutional disorders are brought about by retention and accumulation of those poisons. Myxedema, pancreatic diabetes, acute yellow atrophy of liver, Addison's disease.

In cases of auto-intoxication by retention or over-production of noxious products, the indications are to prevent the production of poisonous material, or at least its absorption, to destroy poisons within the organism by stimulating hepatic action, for instance, and to help the elimination of poisons through the skin, lungs, kidneys, and intestines. L.

Treatment of Gonorrhea

Dr. Joseph A. Silverman, in the *Amer. Jour. of Derm. and Gen.-Urin. Dis.*; ref. in *Med. Arena*, p. 318-319, Vol. V, No. 10, describes in detail a treatment of gonorrhea that he has used in over 1500 cases, with but three failures, and not a single case followed by any unusual complication.

The treatment consists in the use, by injection, of solutions of permanganate of potash of 1-1000 to 1-1500, using two syringes full, of a half-ounce capacity, usually once a day; occasionally, two injections a day are given. He uses a syringe of his own design, made by A. S. Aloe & Co., of St. Louis. In shape, it corresponds to that of the male catheter. It is long enough to reach the sphincter. The catheter part of syringe is made of sterling silver and perforated with small holes throughout its entire length. These openings allow the solution to pass

out and come into contact with the whole surface of the urinary meatus, destroying the gonococcus and rendering immune the pathological secretions. Before introduction, great care is taken to sterilize thoroughly the syringe.

This treatment is in complete harmony with modern ideas as to the cause and pathology of the disease. The gonococcus, a vegetable germ, is its cause. The permanganate solution destroys the germ. The abnormal secretions result from the presence of the germ. The potash solution neutralizes these. In the strength employed the solution does not irritate the mucous membrane of the urethra, therefore no harm is done the normal structures, as is usually the case in treatment by injection. The numerous perforations allow the solution to dilate the mucous folds in all parts of the urethra; no surfaces, therefore, escape the presence of the solution. The catheter part stops short of entering the bladder and thus causing an extension of the disease in that organ. The treatment is in all respects a rational one, and is supported by clinical evidence. T.

Tuberculosis of the Salivary Glands

Though it is easy to induce tuberculosis of the salivary glands experimentally, we meet the disease clinically but very seldom. O'Zoux describes two cases in the submaxillary gland (*Arch. clin. de Bordeaux*, No. 1, 1897). The swelling is considerably larger than in simple adenitis and is exceedingly painful; the pus is thin and moderate in amount. The author explains the rarity of the disease in this location by the fact that the food remains in contact with the oral mucous membrane for too short a time to give rise to infection. R.

Origin of Giant Cells from Endothelium

Dr. A. Brosch (*Virchow's Archiv.*, CXLIV, 2, p. 289) studied the origin of tuberculous giant cells in a case of tuberculosis combined with endothelioma of the pleura. He expresses the opinion that these cells develop from transformation of young vessels. The general arrangement of the very numerous giant cells and vessels in the pleural era, in which both formations appear to be intimately associated, speaks in favor of this view of the author. According to the staining properties, the cell-bodies of the giant cells corresponded to necrotic material; the peripheral, circularly arranged nuclei sometimes appear to have broken through the necrotic material; this phenomenon resembled young vessels in the lumina

of which more or less homogeneous masses were enclosed. The author was able to follow all stages of change in the vessels with disintegrated contents into giant cells, which, in their arrangement, corresponded to the tortuous course of a vessel. The degeneration of the vessel at certain points is dependent upon an especial varicose distortion. Vessels in which transverse section showed an internal free cell-ring, free within the lumen, seemed to the author especially to support his theory. This ring represents a separation of the intima as the result of pathological disturbances, to which process can be added a degeneration of the blood at the point mentioned. The formations thus originated exactly correspond, in regard to arrangement of the nuclei, to certain large giant cells with double rows of nuclei. The proliferation of diseased intima-cells may possibly play a rôle in the formation of giant cells.

Abscess of Liver Due to *Bacillus Coli Communis*

The bacteriological findings in the following case of abscess of the liver are reported by E. C. Levy (*Med. Reg. Virg.*, Aug.). The patient, a male, aged 28 years, gave a history of typhoid fever ten years ago. For the past two years he had been subject to cramps in the abdomen, which he regarded as colic. His present illness began with one of these attacks on April 1. Morphine was administered hypodermically, epigastric tenderness continuing, however, subsequently. Gall-stone was diagnosed, and the patient treated accordingly for three weeks. He was first seen by Dr. G. B. Johnston and the author on April 20; he had had continued fever, sweats, rigors, nausea, and, occasionally, vomiting. Diarrhea and constipation had alternated. He had lost flesh rapidly and was greatly emaciated. The pulse was rapid and feeble, the temperature 100.2° F. Physical examination revealed a very conspicuous tumor extending entirely across the upper zone of the abdomen and two inches below the umbilicus, most prominent midway between the ensiform cartilage and the umbilicus. It was smooth, very tender, and fluctuated. Hepatic abscess was diagnosed and immediate operation advised. When the peritoneum was opened, the liver bulged into the wound; the abscess-wall seemed so thin and the quantity of pus so great that immediate opening was deemed inadvisable, there being no adhesions present. It was then decided to perform the operation in two sittings. The patient lost ground steadily during the five days that were given for the formation of adhesions. Two quarts of chocolate-colored pus were

subsequently removed, large masses of necrotic tissue floating out with the pus, while others, observed to be loose in the cavity, were extracted with forceps. The cavity was a mammoth one, involving the entire liver, of which nothing seemed to be left but its capsule. Death occurred ten hours after operation. Microscopic examination of the pus, made at once in hanging-drop preparation, on warm stage, failed to show presence of *Ameba coli*. From the pus a series of gelatin plates and an agar-slab were made. The agar-tube, after twenty hours in the thermostat, showed abundant growth on the surface, slight along the slab. From this tube cultures were started on the usual media and a second series of plates made. The original set of gelatin plates showed at the end of three days flat, dry, irregularly notched, bluish-white, non-liquefying colonies. From one of these colonies, on plate No. 2, a second set of tubes was made. On the fifth day, the growth on all media, in both sets of tubes, was profuse; potato-growth brown; bouillon cloudy, with slight mycoderma; milk coagulated, gelatin not liquefied. Fermentation-test in glucose-bouillon showed abundant evolution of gas. The diagnosis was *Bacillus coli communis*. From being looked upon as little more than a harmless saprophyte, this bacillus (or group of bacilli) has come to be regarded as one of the most important in the list of pathogenic bacteria. When the manner of its assuming its virulent, disease-producing rôle shall have become fairly understood, light will be thrown on many of the most interesting and puzzling problems which bacteriology is now endeavoring to solve. It is to be regretted that no autopsy was secured in the above case. It would have been interesting to determine, if possible, the element of infection. L.

Changes in the Nervous Tissues Due to Uremia

Two Italian observers, Acquisto and Pasateri, in a number of experiments made upon animals, report in the *Rivista di Patologia nervosa e mentale*, Vol. II, No. 10, a number of histological and anatomical changes.

The animals mainly experimented upon were dogs. Artificial uremia was induced in them by ligation of the ureters, the dogs dying in from sixty-eight to ninety-six hours. The nervous tissues were variously fixed and stained by the methods of Golgi and Nissl. In the cortex of the brain no changes were found in the large ganglion-cells, the axis cylinder-processes, the neuroglia, the pericellular spaces, nor the perivascular spaces. The cells showing the

greatest amount of change were the smaller ganglion-cells and their dendrites, the latter showing conditions of varicose atrophy in some or all of their branches. The ganglion-cells were chromatolytic, the chromophylic substance being found in the form of round granules, generally in the center of the cell, sometimes near the dendrites. The perinuclear zone was usually clear and homogeneous. The large cells of the cord were similarly affected. J.

The Influence of the Oxygen of the Air on Metabolism

The much-discussed question of the oxygen of the air is taken up by P. V. Terray in *Pflüger's Archiv.*, Vol. LXV, p. 383, who experimented with rabbits and dogs in oxygen-controlled air.

When the oxygen-content of the air was between 10 and 87 per cent. no changes were noted, but when the oxygen sank below 10 per cent. there was an increase in the amount of CO₂, N, and lactic acid, also of oxalates, especially in dogs. Albumin was found in the urine and in dogs glucose made its appearance. J.

A New Element in the Blood

H. F. Muller, in the twenty-fifth volume of the *Centralbl. f. Path. und Bakteriolog.*, p. 529, describes a hitherto unknown morphological element of the blood. It occurs in the plasma especially, near the red blood-cells. These elements are small, colorless, sometimes transparent, strongly refractive bodies, which show a marked motility in the fresh specimen. They are not stained by osmic acid, and thus are not fatty in their nature. They are not fibrin-formations, since they are insoluble in acetic acid. The author has found them constantly in normal blood in different individuals and at all times. They vary, however, in number. In hungered and cachectic conditions they are diminished. The writer names them "haemokonien" or "blood-dust," and considers them as elementary granules, but gives no further characters. J.

Cystitis in Nursing Infants

It is but seldom that the physician pays any attention to the bladder of children suffering from grave diseases, such as bronchopneumonia, gastro-enteritis, meningitis, etc. But cystitis is frequent in such patients. Dr. Finkelstein (*Rev. prat. d'Obstet. et de Gynecol.*, No. VII, 1897) has observed over thirty cases, mostly in girls under 1 year of age. The cystitis in such cases is almost always due to retention. The decomposing urine makes the bladder a locus

resistentiæ minoris for the bacteria which penetrate into it through the urethra as a rule; occasionally they invade the bladder from the blood or from the rectum. On post-mortem examination the author found that the urethra was almost always soiled with fecal matter, while the blood and other organs contained no coli bacilli. The author calls attention to the extreme importance of scrupulous cleanliness of the lower portion of the abdomen in very ill children. The diapers should be changed as often as possible; as soon as retention is noticed the catheter (thoroughly aseptized) should be used. [In severe cases the bladder should be washed out with mild antiseptics, such as a saturated solution of boric acid.] R.

The Influence of the Thyroid Gland Upon the Development of the Skeleton

The following are the conclusions drawn upon this subject by M. Danis (*Gaz. méd. de Paris*, 10th Series, Vol. I, No. 3, p. 33):

I. The thyroid gland exerts an indisputable action upon the development of the skeleton. Proofs of this are furnished us, primarily by medicine, which demonstrates to us:

(a) That myxœdematous idiots, whose thyroid glands are absent or atrophied, are always dwarfs.

(b) That endemic cretins, who have a macroscopically hypertrophied thyroid body, but one that is functionally atrophied, always have their skeletal development arrested, when the signs of cretinism commenced in infancy. Dwarfism is the more pronounced the younger the patient was when the goiter first made its appearance.

(c) That when total thyroidectomy is performed in children (an operation, which now is completely abandoned), growth is arrested. We should only perform partial thyroidectomy therefore upon children.

(d) That even patients with Basedow's disease present trophic disturbances of the bones, attributable to a too great activity of the conjunctive cartilages; this activity is directly dependent upon hyperthyroidization.

(e) Finally, that the thyroid body is especially large during the period of growth, that it diminishes in size when growth is completed, that is to say, when its rôle is ended.

Secondly, by the experimental investigations of Hofmeister and Eiselberg, animals, whose thyroid had been removed, presented a most marked arrest in growth.

Thirdly, by treatment with thyroid, which produces a decided increase in height in myxœdematous idiots, cretins, and in child-

ren whose arrest of growth is due to various causes, such as rachitis, albuminuria, etc.

II. The pathogeny of this action of the thyroid body, upon the development of the osseous system, still is a subject for study. There is a tendency, however, to admit that the thyroid gland secretes a special substance which neutralizes the products of disassimilation and thus prevents their exerting an untoward influence upon the functioning of the trophic centers.

III. Whatever may be its mode of action, thyroid medication is indicated in myxœdematous idiots and in cretins. One should first ascertain, in every case, if growth still is possible in these patients; this is accomplished by examining the fibro-cartilages with the aid of the radiograph and determining whether or no they have become ossified. This treatment necessitates especial watchfulness, on account of the toxic disturbances which it may induce.

Of all the forms of thyroid medication now in use (grafting, injection of thyroid juice, injection of other preparations of thyroid, etc.), the ingestion of the fresh thyroid gland of sheep by stomach appears to be the best.

In concluding, the author observes that there is a curious relation between the thyroid gland and the testicle still to be established. Thyroidectomy, or the functional suppression of the thyroid, causes a decided arrest in development; absence of the testicles or castration causes excessive growth of the bones, and a marked increase in the length of the skeleton. T.

Renal Alterations Following Experimental Intestinal Occlusion

Ferrio and Bosio (*La Sperimentale*, LI, No. 2) have experimented on guinea-pigs to ascertain the effects of intestinal occlusion on the kidney, the histological changes, and if the alterations were connected with pathogenic micro-organisms.

To avoid intestinal perforation, they tied the crassus, and no peritonitis was observed when antiseptics was strictly followed. Death occurred three to six weeks after the operation, with symptoms of vomiting, somnolence, collapse, and great abdominal enlargement.

The changes in the urine are slight and often absent, consisting only in diminution in quantity and inconstant presence of traces of albumen and indican.

When the intestine was not profoundly altered, the bacterial examination of the urine and kidneys and artificial cultures proved negative, even in animals killed three days after the operation. The urine

and kidneys showed the *Bacterium coli* in one case only. But when peritonitis occurred or the intestinal walls presented changes, bacteria appeared.

As to the histological examination, the kidneys showed evident alterations three days after the occlusion was performed.

The glomerules of Malpighi do not suffer any alteration, not even a trace of exudation in the capsule of Bowman could be discovered, while in the epithelium of the convoluted tubes are observed the most important changes, consisting in discoloration of the nuclei, which stain but slightly or not at all with the nuclear coloring agents. The epithelial cells presented a muddy tumefaction, which frequently fills the tubule as a granular matter. The epithelium was free from vacuolization or fat-degeneration. The connective-tissue stroma is neither hypertrophic nor inflated or edematous.

The same histological alterations are seen when urine and kidney contain micro-organisms. Their conclusions are thus summarized:

1. Artificial occlusion of the last part of the intestine in the guinea-pig produces degeneration of the secretive epithelium of the kidney, the glomerular apparatus being unchanged.

2. The changes observed are of toxic origin, as the bacterial invasion of the urine and kidney is only a secondary phenomenon to the development of profound intestinal lesions, in which case the histological alterations of the kidney remain the same. M.

The Action of Rarefied Air

In a series of notes made upon rabbits, G. Lewinstein, in *Pflüger's Archiv.*, Vol. LXV, p. 278, states that when these animals are kept for twenty-three days in air rarefied to a pressure of from 300-400 mm. (mercury) they die; and that the microscopical findings show a marked fatty degeneration of the liver, the heart, the kidneys, and the unstriped muscular fibers.

J.

The Connection of Tuberculosis with Diseases of the Skin Other Than Lupus Vulgaris

Dr. James Nevins Hyde opened the discussion of this subject (*Jour. of Cut. and Gen.-Urin. Dis.*, Oct., 1897) before the third International Congress of Dermatology in London, August, 1897.

Aside from lupus vulgaris, it is established that primary infection of the skin with tubercle bacilli occurs, and that this may be followed by a secondary infection of the other organs of the body. It is also admitted that a visceral tuberculosis may be

followed by a secondary infection of the integument.

Looking at the cutaneous tubercloses, their diversity and disparity are conspicuous. There is but little resemblance between the bean-shaped tuberculous wart on the finger and the gigantic ulcerations covering one-fourth of the area of the trunk.

Classifying these infective phenomena, it is convenient to divide them into three categories. The first are those directly connected with either primary or secondary tuberculosis of the skin.

The second includes those where the tuberculosis is directly responsible for the result.

The third are those occurring symptomatically in connection with a visceral tuberculosis.

W.

Physiological Treatment of Apparent Death

In commenting upon the simplicity and efficiency of "Rhythmical Traction of the Tongue" in resuscitating patients that are apparently dead from asphyxia, due to drowning, escape of illuminating gas, asphyxia of the new-born, etc., Dr. A. Prévot writes as follows (*La Tribune méd.*, Second Series, No. 33, pp. 649-651):

This method, originated by Dr. V. Laborde, was first applied in a laboratory of experimental physiology and then put to practical use by Dr. Laborde himself.

A large list of cases has been made, in which this means of restoration to life has been successfully employed.

Many discussions have been held at the Academy of Medicine of Paris, in which the merits of this procedure were compared with those of other methods, which always redounded to the praise of the one recommended by Laborde.

Dr. Prévot mentions two more cases to be added to the already lengthy list of patients apparently dead that were resuscitated by the rhythmical tractions of the tongue. One of these cases was a new-born infant with marked asphyxia; the other was that of a patient apparently fatally asphyxiated by illuminating gas. The technique of this method is exceedingly simple. At the same time that artificial respiration is carried on, the tongue is drawn forward with the hands, and to avoid its slipping, it is held with a moistened cloth or with the aid of a pair of hemostatic forceps. The rhythmical tractions are made upon the tongue in unison with the rhythm of respiration, a maneuver that is practical for everyone.

The nerve-mechanism of this procedure, as given by Dr. Laborde, is thus: The initial excitation is transmitted to the cerebro-

spinal center through the sensory nerves on which the tractions of the tongue act, predominantly the superior laryngeal nerves and the tracheo-bronchial terminal expansions of the pneumogastric; accessorially, the glosso-pharyngeal and the lingual nerves. The reflex return impulse on the respiratory motor nerves, particularly upon the phrenic, which awakens the movements of the diaphragm and through them the respiratory function, is again commenced. V. Laborde says one should not despair even in the presence of a death that one has every reason to believe to be real. T.

The Permeability of the Skin

Manassein (*Arch. für Derm. und Syph.*, Band XXXVIII, Heft 3) had examined a section of the skin procured from a syphilitic patient who had died shortly after using a mercurial inunction. These examinations were made with the view of determining the permeability of normal living skin. He concludes that it is impervious to salves applied in the usual methods of inunction, but that ointments vigorously rubbed in may permeate to varying depths in the hair-follicles. W.

Case of Spontaneous Gangrene of the Skin

Dr. W. T. Collette, in *Jour. of Cut. and Gen.-Urin. Dis.*, December, 1897, gives the history of a case of this condition. The patient was a girl aged 15 years, in all respects healthy except that her menstruation was somewhat irregular. The first dermatological disturbance followed the rubbing of her cheek with a leaf, which produced a blister and lasted about three weeks. Ten days after she complained of severe abdominal pain and was confined to her bed for a week. Late in December the patient had a blister on the middle finger of the left hand which resembled that on the cheek. Later a similar one formed on the dorsum of the right foot which rapidly became gangrenous. W.

Priapism

In a paper read before the American Association of Genito-Urinary Surgeons, Dr. W. R. Taylor distinguishes the following classes:

1. Priapism observed in infants and children, induced by reflex action, in cases of long, light, adherent prepuce, of stone in the bladder, or prostatic urethra, and of worms in the rectum.

2. Priapism in adults symptomatic of stone in the bladder, stone in the prostatic urethra, stricture, cystitis, and observed

during retention. In these cases the uneasy or painful sensation is felt in the glans penis, while the body of the organ usually is only moderately congested and sometimes curved downward or laterally. This condition disappears upon the removal of the cause.

3. Priapism symptomatic of gonorrhea, with perhaps involvement of the corpus spongiosum and downward curvature. This condition is painful and transitory, and may occur several times during the night. In cases of downward curvature of the penis, due to inflammatory engorgement of the corpus spongiosum and spasm of the musculature of the urethra, the term chordee is applied.

4. Priapism due to the ingestion of cantharides, is a form that is seldom or never seen now, since this drug is so rarely used in medicine.

5. Essential priapism may be divided into four varieties: (a) Priapism caused by injury to the spinal cord (either high or low down), and by blows or violence inflicted upon the perineum; (b) priapism which is a symptom of cerebral or descending spinal-cord disease; (c) priapism which occurs after alcoholic and sexual excesses; (d) priapism which comes on a person in ill health, in whom it is difficult to obtain data as to local injury and causation, and in which cases there is now a tendency to look upon leukemia as the etiological factor. S.

The Poison of the Honey-bee

Dr. Joseph Zanger has investigated the chemical and toxic properties of the honey-bee's poison in a most thorough manner, and has reported his results in a communication to the *Arch. für exper. Pathologie und Pharmakologie* (Vol. XXXVIII, pp. 381-396). The author employed for his investigations 25,000 bees. The fresh poison is clear like water, of an acid reaction, bitter taste, and of a fine aromatic odor. On evaporating and drying at a temperature of 100° C. (212° F.) a gummy residue is left. It is soluble in water, with alcohol it forms an emulsion-like mixture. The aromatic odor is due to a volatile substance, which disappears on evaporation and is not poisonous. The poisonous constituent is not destroyed by short boiling, nor by drying and heating the residue to 212° F., nor by the diluted acids or alkalis. Dr Zanger has proved the existence of formic acid, but he has also proved that that is not the poisonous principle. The latter is an organic base, soluble with difficulty in water, but kept in solution by an acid. On the healthy skin neither the bee-poison nor a

2-per-cent. solution of the poisonous principle has any effect, but they act as powerful irritants on the mucous membranes. Brought in contact with the eye, there follow lachrymation, hyperemia, chemosis, and croupous membrane on conjunctiva. The general condition is also affected; the animals become melancholy, take no food, but are very thirsty, and the urine shows small amounts of albumin. R.

Gonorrhea a General Disease

At the last meeting of the French Association of Urology, held in Paris October 21 to 23 (reported *La Méd. mod.*, VIII, No. 89, p. 711), Drs. Jullien and Sibert said that, considering the frequency, the multiplicity, and the severity of the complications of gonorrhea, we are justified in calling that affection a general disease. In a girl of 17, who entered the hospital with a gonorrheal vaginitis, there rapidly supervened a sinovitis, tendo-sinovitis, hydrops, myositis, nephritis, and meningitis, with constant delirium and a temperature of 104° F. In a second case there rapidly developed numerous arthropathies, followed by a cardiac lesion, which terminated in the destruction of the mitral valve. The patient became thin, weak, and short of breath, and permanently incapacitated for work. An examination of the blood showed the presence of the gonococcus. R.

Some Cases of Feigned Eruptions

Dr. F. J. Shepherd (*Jour. of Cutan. and Gen.-Urin. Dis.*, 1897) read before the twenty-first annual meeting of the American Dermatological Association an article with the above title. He says that the simulation of various diseases has been resorted to in every age and by all classes of society. When the purpose is to avoid conscription, work, or duty, the simulator is usually a male; when it is to excite sympathy or interest, or to attract notoriety, a female.

The first case cited was one of gangrenous patches on the skin of the forearm. The patient was a female, aged 30, who was suffering from a peculiar eruption on the back of the arm and forearm; size of the irregular patches about that of a ten-cent piece, some of which were hard, dry, and gangrenous; others were shiny and of a dead yellowish. Each of the patches was surrounded by an inflammatory border. Some of them looked as if they had been produced by a metal disc. On being questioned as to whether they were artificially produced, the patient indignantly denied and the people in authority scouted the idea.

On being placed in the wards of the hos-

pital, and the arms being covered with dextrin bandages, the eruption soon cleared up, proving that they had been artificially produced, probably by heating the cover of a metal box and burning the skin therewith. No object was discovered except to be relieved from work. The patient was not hysterical.

The second case, also a woman, employed as a cook on a farm, consulted the doctor for blisters on the cheeks. She said that she had been pressed against her will to work in the fields. The weather was hot, and she perspired profusely and wiped her face with her apron. She attributed the trouble to poison-ivy.

On each cheek there were several large blisters. On close examination it was found that they had been produced artificially by the application of cantharides and some acids. The reason for the mutilation was to be relieved from outdoor work.

The third case was that of an hysterical female, whose chest was covered with a croton-oil rash. The patient took a special delight in exhibiting her condition to the medical students. A placebo was prescribed, which cured her. In a few months she came back with a large blister on her cheek, which had evidently been made by the application of some irritating acid. This was a case of hysterical malingering.

Case four, also that of a female, was gangrenous patches on the left foot and leg, which had evidently been produced by burning the skin with cigarettes. W.

Demonstration of Morphine in Urine

Dr. Schindelmeiser (*Medicina*, No. 12, 1897) examined the urine of healthy persons, to which 0.03 of morphine was added, the urine of two patients subject to morphinism, that of patients who consumed morphine under his directions, and also that of perfectly healthy people. The urine was evaporated over a water-bath and treated with alcohol and hydrochloric acid until slightly acid. This mixture was filtered after twelve hours, and the filtrate completely decolorized by alcohol. After the removal of the alcohol the acid sediment, which was soluble in water, was treated several times with amyl alcohol in order to remove all admixtures. The watery solution of the sediment was neutralized by caustic potash, shaken with amyl alcohol, and after evaporation of the latter in watch-crystals the sediment was tested with the ordinary morphine-reagents. The results were positive, and the author therefore believes that through such procedure morphine may be demonstrated in every specimen of urine containing it.

GENERAL SURGERY

Types of Fractures and Dislocations of Bones Liable to Be Overlooked

In dwelling upon the importance of accurate diagnosis in the above class of cases, Dr. T. H. Manley (*Virg. Med. Semi-Monthly*, June 25) offers the following conclusions:

1. Fractures, difficult or impossible of demonstration, those fissured vertically, or those non-displaced through the cancellous tissue of the articular ends of long bones, occur, without doubt, more frequently than is commonly supposed.

2. In injuries of the limbs attended with unusual or doubtful fracture, nothing can justify the application of violence to demonstrate its presence, as in no event are the principles of therapy altered in them.

3. In this class of cases the patient should be given the benefit of the doubt until, at least, time elucidates it—caution only being observed that the circulation is unhampered and full muscular relaxation is effected.

4. We should never fail, when possible, to utilize the Roentgen rays as a diagnostic aid, though their use in this direction is obviously limited.

5. Exploratory incision should be ruled out, unless the fracture is of such description as to demand or justify a simultaneous osteo-plastic operation.

L.

A Case of Fatal Bleeding Following the Removal of Adenoid Vegetations

Dr. E. Schmiegelow reports in *Monatssch. f. Ohrenheilk.*, Jahrg. XXXI, No. 3, the following very rare complication of the operation for the removal of adenoids of the naso-pharynx.

Primary bleeding, from the removal of adenoid vegetations, fortunately occurs rarely. Seldom are cases reported in literature where serious bleeding after this operation is met with (Bryson, Delavan, Cartaz, Woakes, Rualat, Gellé and Beasoleil). More commonly the bleeding has ceased before the occurrence of complete collapse.

Death in one case reported by Delavan, after a digital examination of the posterior nares, was without doubt due to the fact that the child was a "bleeder." The case reported by Schmiegelow was that of a boy 12 years old, treated at the polyclinic of Frederick's Hospital, Copenhagen. The patient complained of a disability to breathe through his nose, and had to breathe through his mouth altogether. He was small for his age, always held his mouth open, while his nose appeared compressed laterally. On both

sides of his neck, both before and behind the sterno-mastoid, there were swollen lymphatics. The family history of the patient was scrofulous. By digital examination it was ascertained that the vault of the naso-pharynx and the posterior nasal meatuses were filled with adenoid vegetations. The exploring finger was somewhat bloody. The operation was performed with the patient seated, while an assistant steadied the head with one hand and with the other held the hands of the patient. The boy sat quietly during the performance of the operation, without struggling or without apparent fear. A Gottstein's curette was introduced into the naso-pharynx, a mouth-gag being used to hold open the mouth. First, by a stroke of the instrument it was carried into the middle line. The handle was passed to the left, so that the blade was carried into the right side of the naso-pharynx, when three or four sweeps were made. Immediately there ensued a very profuse hemorrhage from the mouth and nose, of bright arterial blood, without any preliminary dripping. It was seen at once that unless assistance were quickly rendered, danger of a serious nature was imminent. The patient meanwhile sinking from his seat, was assisted to a table, and a tampon of iodoform gauze introduced anteriorly and posteriorly. His breathing became rapid; he was very pale and cyanotic.

Bleeding was controlled after the tampon was put in place, but in spite of subcutaneous and intravenous injections respiration was not re-established. An autopsy was performed, which resulted as follows: The heart and its adjacent veins were well filled with blood. (The patient had lain with his head lowered and the extremities had been wrapped with bandages.) All the internal organs were markedly anemic. The right lateral wall of the naso-pharynx was lacerated and there were clots of blood in the wound. There was found in the internal carotid a long wound, just below the portion which enters the carotid canal of the petrous portion of the bone. Besides this, there were few lesions of the vessels at the side of the wound of the pharyngeal wall. Numerous enlarged glands existed contiguous to the artery. The course of the vessel was microscopically normal.

An explanation of the manner in which the accident occurred was not apparent. It seemed certain that the serious hemorrhage was from a lesion of the internal carotid artery, and that the cause for the pharyngeal bleeding was the wound of the side-wall of the pharynx, through which the blood found an outlet. But how the internal carotid was ruptured is not clear. Possibly the great

swelling of the glands to the connective tissue of the side of the neck had an influence upon the fatal result. The internal carotid was evidently injured through the pharyngeal wall.

The Gottstein's curette had in all probability pressed upon the lateral wall of the pharynx and brought so much force to bear upon the internal carotid that this artery was pressed tightly against the cranium, resulting in its rupture. B.

Resuscitating Effect of the Suprarenal Extract in Threatening Death from Chloroform-narcosis

Dr. A. Mankowski, *Russkii Archiv. Pathologii* (Vol. III and IV, 1897), has anesthetized dogs experimentally to such an extent that the heart-beat and respiration were suspended for thirty seconds. He then injected a 1-per-cent. suprarenal extract in doses of 1.0 to 2.0, and made the following observations:

1. Suprarenal extract injected in the jugular vein has a revivifying effect upon a moribund from chloroform-narcosis.

2. Compared with the resuscitating methods of Laborde, Schüller, and König-Mass, the intravenous injection of suprarenal extract acts most energetically.

3. As a small dose (1.0 to 2.0) and a weak solution (1-per-cent.) of the extract exerts such a pronounced influence upon the respiration, blood-pressure, and heart's action, the extract must be very cautiously employed.

4. The suprarenal extract must be freshly prepared before each chloroform-narcosis.

5. The best results are obtained from a combined method—intravenous injection of suprarenal extract, simultaneous massage of the precordial region, and subcutaneous infusion of a normal salt solution. P.

When to Call a Surgeon in Appendicitis

Dr. Geo. W. Gray, of Boston (*Gaillard's Med. Jour.*, Aug., 1897), presents the particular conditions and circumstances, intended especially for the family physician, in which a surgeon should be summoned in consultation in appendicitis:

1. In cases of the fulminating variety of appendicitis, in which symptoms are always grave; and generally increasing in severity from hour to hour to an alarming degree, it is scarcely possible to obtain surgical aid too early in the disease. An operation may or may not be necessary, according to the condition of the patient, but from the very nature of things, an experienced surgeon is best able to decide that point. No one would think of operating upon a person

while in a state of profound collapse. Profound prostration, which differs from collapse in that the clammy sweats, cold extremities, flickering pulse, and sighing respiration are lacking, may call for an immediate operation. By speedily relieving the system of the pent-up septic materials the vital powers are thus enabled to rally, and to regain their normal condition.

2. In the greater proportion of cases of appendicitis met with in ordinary practice the symptoms are moderate in severity at first, but steadily grow worse every twelve hours or so, with perhaps occasional remissions. These cases are often very deceptive. The patient does not seem to be very sick. With an occasional opiate, or perhaps without anything of the sort, he suffers little pain, and the attendants and friends are loathe to believe that a serious, if not a dangerous, process is going on in the abdomen, until the vital powers are so exhausted that the patient's chances for recovery are very materially diminished. In these cases Dr. Gray strongly urges that the surgeon be called, not later than the third day. Very likely the symptoms will be only of moderate severity at that time; but the consultant can form a much more correct and satisfactory idea of the character of the disease before its manifestations have reached the point of danger. He will also be better prepared to attack the case at the proper moment.

3. A patient has a moderate attack of appendicitis. He is to all appearances improving, when without any definite reason the symptoms are aggravated. He has a relapse, and has to make another start in his convalescence, only to experience the same chain of events sooner or later to prevent his recovery. The patient, and oftentimes the physician, is inclined to attribute these relapses to over-exertion, an error in diet, catching cold, etc. While these factors may occasionally act as exciting causes, yet the essential feature to be borne in mind is a damaged appendix. Every exacerbation means an extension of the morbid process, and leaves the patient a little weaker and a little worse off than he was before. The time may come when he fails to rally, and he then becomes an invalid from chronic appendicitis. Sound judgment is therefore required to decide the proper period for interference. Each case must be managed according to its conditions and peculiarities. It is better to err on the side of safety.

4. Finally, we have the recurring cases of appendicitis to consider, which differ from the relapsing variety in the fact that patients are apparently well between the attacks. Recently a gentleman consulted the writer

for the following symptoms: Five or six times during the past year, after a hearty meal, he has been suddenly seized with a severe pain in the umbilical region, which gradually worked down into the vicinity of the appendix. The pain is accompanied by marked local tenderness and inability to stand erect. It lasts about three hours, but the tenderness persists for three or four days, or even longer. He is weak and exhausted for several days—much more so than would be expected from an ordinary attack of colic or indigestion. This man is strong, robust, and is entirely well between these attacks. Is an operation necessary, and if so, when shall it be performed? The temperament of the surgeon and of the patient is a factor in deciding these questions. If the attacks are increasing in frequency or in severity, there can be little doubt as to the necessity of an operation; and the sooner it is done the safer and better for the patient. In the opinion of the author, six attacks of appendicitis in one year, even if mild, are quite sufficient to justify an operation for the removal of the exciting cause. Not a few physicians entertain the idea that there is no occasion for calling the surgeon until a tumor has formed, indicating that the inflammatory process is limited in extent and has ceased spreading. That this idea is erroneous and misleading, is abundantly proven by the fact that in very many cases no tumor is ever found, and yet the convalescence dates from the moment of operation. The presence of a tumor does not of itself indicate an operation, nor does its absence preclude it. The plan of treatment is based upon other and more important factors in the condition of the patient. If he is growing steadily worse, the more rapid the progress of the symptoms, the earlier are effective measures demanded.

L.

Optic Atrophy Following Injury, Chiefly of the Anterior Part of the Head

Mr. Simeon Snell reported a series of cases at the June 10, 1897, meeting of the Ophthalmological Society of the United Kingdom (*Brit. Med. Jour.*, June 26, 1897). There were four of direct injury to the nerve by penetrating wounds of the orbit, in three of which objective signs of pallor of the disc appeared quite early in the cases. Seven cases followed injury to the eyebrow; one followed injury to the malar region, and one to the frontal and malar region; in another the frontal region only was injured; in another the parietal, and in another the occipital were the injured regions. Although injuries to the anterior part of the skull were those mostly likely to be accompanied by

injury to the optic nerve, yet danger to other parts might have the same effect. In three out of four illustrations in Treves' "System of Surgery" showing the lines of fracture, the optic foramen was involved. In most of the cases brought forward, vision in the eye was totally destroyed, but in five of the cases there appeared to be an area in which light-perception was retained. In one case blindness resulted in both eyes, showing that either both nerves or the chiasma were injured. The lesson to be learnt from the medico-legal standpoint was that a guarded opinion should be given in the early stages of injury in which no objective signs can be made out, as it is possible that decoloration of the disc may ensue after three or more weeks' interval. G.

Unusual Dislocation of the Tibia

At the November 19, 1897, meeting of the New York Academy of Medicine, Section in Orthopedic Surgery, Dr. Taylor presented a patient with unusual deformity and disability of the right knee. The patient was a woman, 23 years old. The trouble had begun when she was 9 months old, with redness and swelling, and the knee became flexible and its motions limited. When she was 10 years old the knee was injured by a fall and has been deformed as at present ever since. There has been no abscess and no cutting operation has been performed. There is complete dislocation of the head of the tibia backward and abnormal lateral mobility. The bones of the knee are small and there is about $1\frac{1}{2}$ inch of shortening of the limb. There is considerable voluntary motion and she can walk for a few minutes without her brace.

Dr. Townsend had seen a similar case, but less marked, in which the deformity was due to an inflammatory lesion without any destruction of the bone.

Dr. Gibney recalled cases of supposed congenital dislocation of the hip, in which operation had revealed the results of an inflammatory process so extensive that the head of the bone was well-nigh gone. He thought the present case might have had a similar origin.

Dr. Manley thought that the condition of the patient's knee was due to some pathological process and not to traumatism. He said that the case was a proper one for resection of the fibula and tibia. He was perfectly aware that the acuteness of the operative furor had swept over and that we are getting back to more salutary conservatism, but this seemed to be an ideal case for operation.

Dr. Taylor said that the patient had declined operative treatment and he intended

to continue giving to the limb mechanical support by means of a Thomas (caliper) splint attached to the shoe, instead of extending below it. He thought that the small size of the bones was due to lack of development rather than to destruction of the bone, and that it was very improbable that this condition was produced by a fall in a healthy limb. There had been some pathological process from infancy which probably left subluxation and flexion, as usually happens in chronic inflammation of the knee, and the fall at 10 years of age might have greatly increased the trouble. He had seen a patient in whom a similar condition had been caused by traction applied in the treatment of hip-joint disease. The hip was cured, but the knee was weakened so that the tibia just hung on the posterior edge of the condyles. G.

Treatment of Catarrhal Otitis Media by Sodid Injections

Chronic catarrh of the middle ear and of the Eustachian tube is an affection which very often resists all the various therapeutical means employed for its cure (insufflation of air, washing out of the nasal cavities and pharynx, painting and cauterization of the naso-pharyngeal mucous membrane with various substances). Dr. J. S. Tchouprina (Kobrine) (*Med. Week*, June 18, 1897) has obtained very good results in the treatment of this disease by the injection into the tympanic cavity of a 1-per-cent. solution of a mixture of equal parts of bicarbonate and chloride of sodium.

It occurred to him to try this method of treatment by observing the well-known circumstance that solutions of sodium bicarbonate and chloride in contact with epithelium stimulate the physiological functions of the tissue and render its secretions more fluid.

The following is Dr. Tchouprina's *modus operandi* for performing the intra-tympanic injections.

A sound is first introduced into the orifice of the Eustachian tube, and air is blown through it in order to ascertain (with the help of the otoscope) that the tube is patent, and that the sound has been well placed. An ordinary injection-syringe or one of larger dimensions is filled with the medicated solution, heated for a few moments over the flame of a spirit-lamp, adapted to the orifice of the catheter which in the meantime has been left *in situ*, and from $\frac{1}{2}$ to 2 c.c. of the liquid is pushed in, the patient keeping his head thrown well back. The syringe is then replaced by an ordinary Politzer bag and air is insufflated by means of it through the catheter, the air pushing

the liquid before it into the cavity of the tympanum. The injections may be repeated daily, but once every two or three days is sufficient.

During the insufflation of air after injection of the solution, the operator, observing with the otoscope, may note the production in the cavity of the middle ear of crepitations which were not perceptible before, and which show that the liquid has really penetrated into the cavity. If the tympanic membrane is perforated, the solution may even be seen to flow through the perforation into the external meatus.

Immediately after the injection, the patient has a sensation of fullness in the ear, the ringing becomes much more intense than before, and the power of hearing decreases more or less.

Soon, however, these different phenomena begin to subside, and the patient becomes conscious that he can hear much better than before the injection.

The improvement becomes more marked after each injection, and along with this the other symptoms of catarrhal otitis, the ringing noise and shooting pain, also subside.

Some of Dr. Tchouprina's patients had been treated by the ordinary methods for months, for their catarrhal otitis, without any benefit. Their condition so far improved by these sodid injections that they were enabled to resume their profession as teachers of singing and music, which they had been obliged to give up owing to the growing deafness. G.

An Operation for Slipping Patella

At the November 19, 1897, meeting of the New York Academy of Medicine, Section in Orthopedic Surgery, Dr. Whitman presented a boy 13 years old on whom he had operated sixteen months ago for slipping of the right patella. The capsule had been divided on the outer side and considerable difficulty had been found in reducing the location on account of the contraction of the tissues. A tuck was taken in the capsule on the inner side. The patella was now over the external condyle. When he left the hospital it had been in the median line. For a long time he had worn a knee-cap, as directed, which he had long ago discarded. This case was not presented as a fair test of the operation, as the dislocation was but part of the disability and deformity attending hemiplegic contraction of the right side of the body. It had, however, relieved pain and discomfort.

Dr. Gibney said that it was still a question what is the best treatment for slipping patella. He had transplanted a fragment of the tibia with the insertion of the liga-

mentum patellæ in a girl 14 years old. Union in the new position was secured and the limb was put in plaster of Paris. In spite of a little suppuration, the recovery was good. The ultimate result, however, was in doubt, as the patient was lost sight of.

In another young woman the slipping had occurred repeatedly, followed sometimes by acute inflammation. A splint had been applied and she was wearing it still to keep the patella in place. In a boy of 4 years the slipping patella had been easily reduced and it is probable that massage and the growth and development of the muscular fibers will be sufficient to remove the trouble.

G.

A New Operative Procedure in Glaucoma

Jonnesco (*Sem. méd.*, Oct. 26, 1897) has recently applied the method of bilateral excision of the cervical sympathetic to the treatment of glaucoma. His first case was that of a man, aged 50, who had suffered from glaucoma for six years and had been blind for two. Directly after bilateral extirpation of the superior cervical ganglion of the sympathetic, the ocular tension, which had been considerably plus, fell below normal. Vision, formerly absent, improved, so that the day after the operation the patient could count fingers at a distance of at least 2 meters (80 inches), and could guide himself while walking. Improvement was maintained up till the date of publication (nineteen days). In two cases since this the results have been very satisfactory.

G.

Optic Neuritis From Anemia

In a communication to the AMERICAN MEDICO-SURGICAL BULLETIN, Dr. Arthur J. Shaw, of Boston, cites the following facts:

Mrs. R. was referred to me by Dr. C. O. Thompson in November, 1896. She was 30 years of age, large stature and very pale. Her symptoms were dizziness, noises in the ears, failing health, with marked constipation. When I saw her she complained of severe pain over the top and sides of her head and over the eyes—light caused severe irritation and at times great pain.

Examination—Pupils slightly dilated, otherwise normal. The fundus O D showed papillitis with not much exudation, but great swelling, burying in part the congested veins and arteries, and obscuring the edges of the disc. There was moderate peripheric retraction of the field of vision, and the central vision was considerably lowered, vision being 17-40.

Examination of the left fundus showed slight swelling, enough to obscure most of

the edge of the disc and some of the vessels. Vision in this eye was 17-20. Smoked glasses were given her, and Dr. Thompson ordered her iron and arsenic in large doses and sent her on a vacation to the country.

December 4—The vision was just the same and also the swelling.

April 15, 1897—A great change was observed. The swelling of both discs was entirely gone, and her vision in both eyes was 17-20. That she might be able to read a little better, I gave her O. D. + 1. sph. O. S. + 0.75 sph. The fundi appeared perfectly normal.

No blood-count was made. The patient is now robust and well, with no signs of her previous distressing symptoms, either general or ocular.

Such a case early presents a great amount of difficulty in coming to a correct diagnosis, it being especially hard to distinguish it from some severe cerebral disorder, such as tumor, etc.

In looking up ten reported cases, I find that though this is a well-recognized cause, the cases are rare, and demand fuller investigation.

Litholapaxy in the Male under Local Anesthesia

According to J. H. Pedereen (*Post-Grad.*, Aug.) not every case is suited to litholapaxy under merely local anesthesia. A small or even medium-sized calculus, be it hard or soft, in a not over-irritable adult bladder, without prostatic hypertrophy, is the ideal condition. In proportion as this is departed from in one or more of its factors, the operation grows in difficulty until we are, finally, met by positive contra-indications. These may be:

1. A large calculus.
2. A bladder so irritable that it will not retain a volume of fluid sufficient to make possible and safe the necessary excursions of the lithotrite during the manipulations.
3. Partially obstructive prostatic hypertrophy, making the introduction of the lithotrite—still more so of the evacuator—difficult and painful, by reason of the unavoidable pressure brought to bear upon the gland-mass.
4. A post-prostatic pouch, in which a calculus or fragments cannot easily be reached with the tip of the lithotrite.
5. A badly sacculated bladder.
6. A patient so exhausted by protracted suffering that he cannot endure even that degree of discomfort and pain which cannot be avoided.

Finally, litholapaxy without general anesthesia should not be undertaken in children and very young subjects.

L.

OBSTETRICS AND GYNECOLOGY

Sudden Death in the Puerperium

Dr. Goltman (*Memphis Med. Monthly*, April, 1897) concludes thus:

1. Pulmonary embolism is the cause of death in most of these cases.

2. It is rare, but so shocks a community when it occurs, that it is advisable to take every precaution to guard against it.

3. Phlebitis, varicose veins, prolonged labor, hemorrhage, anemia, sepsis, cancer, syphilis, etc. predispose to its production.

4. In the presence of peripheral thrombosis, etc., absolute rest must be enjoined, especially the second and third weeks of the puerperium, as this is the disintegrating period of the clots. The danger should also be explicitly pointed out to both patient and attendants, thus insuring, to an extent, a healthy co-operation.

5. The extreme changes in the blood usually ascribed to pregnancy and the puerperium are erroneous, and not corroborated by modern investigation.

6. Sudden death from air-embolism in the puerperium is doubtful from physiological, pathological, and rational standpoints.

7. Shock is both a direct and indirect cause of death in the puerperium and should be guarded against.

8. Organic cardiac affections, kidney-trouble, etc. are capable of producing death at any time, and should not be overlooked in the puerperium. S.

Complete Inversion of the Uterus—Duration a Fortnight—Reduction by Manipulation

Mrs. L., aged 25, was attended in her confinement by Dr. J. Farr, to whom Dr. F. F. Schacht, author of the article (*Brit. Gym. Jour.*, Part L, page 229), is indebted for notes of her case. She was a neurotic, anemic woman in her first confinement, and the pains came on at the full time on June 29, 1897. The presentation was normal, but the progress of the labor being very slow she was delivered with forceps. During the first two days after confinement there were some strong pains which were looked upon as ordinary "after-pains," and which the patient herself thought were due to her not being able to pass her water.

Retention of urine, requiring catheterization, lasted till July 6 (eight days), after which date she was able to pass water naturally. There was free loss, but nothing

excessive, for the first ten days, then the quantity became less and the character of the discharge altered to a dirty brown, with an offensive odor. The patient had been douched with a perchloride-solution. The temperature was at no time over 100.4° F., and it varied between that and 99° F. during the first fortnight. In consequence of the nature of the discharge, Dr. Farr made an examination, and discovered a mass in the vagina which he diagnosed as the inverted uterus. Dr. Schacht saw the patient with Dr. F. on July 12, that is to say, the fourteenth day after confinement. Beyond looking pale, and having a slightly brown furred tongue, there was nothing very noticeable about her. There was no local tenderness, and examination was easily and completely effected, with very little discomfort to the patient—in fact, she herself did not think there could be anything sufficiently wrong to necessitate any interference, much less the use of an anesthetic. The diagnosis, however, was quite clear, and under an anesthetic the uterus was duly replaced. She had no after-trouble, the discharge became non-offensive and gradually ceased, while the temperature sank to absolute normal.

There were several points of interest in this case. The severe pains which were treated as after-pains were in all probability due to contraction of the uterus, though not in a normal manner. Whether the uterus itself contracted irregularly, and the inversion took place the day after the confinement, when the pains began, or whether the fundus uteri followed the placenta it is impossible to say. It is clear that the absence of the contracted uterus per hypogastrium was not observed at the time.

On the other hand, the pains, which were sufficiently severe to be definitely treated, the retention of urine, and the edematous condition of the fundus, when noticed in the vagina, point to the inversion having taken place within a short time of the confinement itself.

There were no general symptoms resulting, and the only noticeable feature of the temperature was that it kept a little above normal.

It seems certain that at the time of the consultation the uterus had been inverted for from twelve to fourteen days. It occupied the vagina, its surface was smooth except over the placental site, but there was no evidence of the placenta having been adherent. It was only just possible to feel (with an anesthetic) the tightly constricted cervix high up. The differentiation of the condition from that of polypus was easy. The patient, being a spare woman, there

was no difficulty in determining the absence of the fundus above the pubes.

As to the actual reduction of the edematous fundus, it was found necessary to introduce the whole hand in order to have the use of several fingers to manipulate, steady, and knead the uterus. With the assistance of the other hand on the abdomen, it was possible after some minutes to push a portion of the cervical section of the uterus up through the constricting cervix. When the process was once started it went on rapidly, and finally the fundus itself jumped back into its proper position.

The uterus was douched and packed with gauze, which was left in for twenty-four hours. P.

Puerperal Eclampsia and Its Treatment

Dr. William Warren Potter concludes an excellent paper on the above subject (*Am. Jour. of Obs.*, November, 1897) with the following summary:

1. Though the pathogenesis of eclampsia is unsettled, it belongs solely to the pregnant or puerperal state. It is not apoplectic, epileptic, or hysterical in character.

2. It depends upon toxemia, due to overproduction of toxins and under-elimination by the emunctories.

3. These toxins probably have their origin in the ingesta, in intestinal putrefaction, in fetal metabolism—one or all—and there is coexisting sluggishness, impairment or suspension of eliminations.

4. When the prodromes of eclampsia appear the kidney should be investigated as to its functions and all symptoms carefully watched.

5. Treatment is (a) preventive and (b) curative. Preventive treatment is medicinal and hygienic; curative treatment is medicinal and obstetric.

6. Milk diet and distilled water should be given in the pre-eclamptic state to dilute the poison, hasten its elimination, and nourish the patient.

7. Blood-letting should be employed only in plethora or cyanosis. It is apt to cause anemia if persisted in or repeated, whereas red blood-corpuscles must be conserved, not wasted. Nitroglycerin diminishes vasomotor spasm, hence it may be given freely in appropriate cases. *Veratrum viride* is a cardiac depressant and a dangerous remedy if pushed to an extent that will control convulsions.

8. Eclampsia is an expression of a further maternal intolerance of the fetus hence, as a primal measure, the uterus should be speedily emptied of its contents.

9. Medicinal treatment alone is delusive, and when relied upon exclusively is fraught

with danger, both maternal and fetal, whereas in the prompt induction of labor is found a rational application of science to a desperate condition.

10. Finally, it furnishes, in the present state of our knowledge, the only basis of expectation for a diminished mortality in a toxemic disease of high death-rate. R.

On the Use of Nitrous Oxide Gas in Minor Gynecological Operations

A safe anesthetic agent, which will rapidly produce unconsciousness with muscular relaxation and leave behind it no after-effects whatever, is greatly needed at the present time for the minor surgical procedures of gynecological practice.

It is claimed by Dr. H. Bellamy Gardner, London, Eng. (*Brit. Gyn. Jour.*, Part L, p. 224), that in the portable apparatus invented by Dr. Frederic Hewitt for the purpose of adding small and regulated percentages of oxygen to the nitrous oxide gas, we have an appliance that will give us all we can desire in this direction.

By this admixture of oxygen, nitrous oxide gas is converted from an irrespirable into a respirable inhalation for the following reasons: Nitrous oxide gas alone has powerful anesthetic properties, and when absorbed into the blood is carried in loose chemical combination with the hemoglobin of the red corpuscles. It displaces the oxygen of the hemoglobin, but itself gives up no oxygen to the tissues, and, after completing the systemic, circulation is exhaled again, unchanged, as nitrous oxide gas. This physiological phenomenon produces, therefore, after from fifteen to twenty-five respirations of pure gas, a condition of oxygen-starvation, with the resulting clinical asphyxial symptoms of irregular breathing, cyanosis, and jactitation.

At this point anesthesia is complete, not because the patient is somewhat asphyxiated, but because of the potent anesthetic influence of the gas upon the whole nervous system when carried to it by the blood. The asphyxial symptoms, due to oxygen-starvation, however, render it necessary to remove the face-piece and allow the patient some breaths of fresh air.

Unfortunately, the concurrent admission of quantities of air sufficient to abolish the asphyxial manifestations and furnish the blood with oxyhemoglobin, so greatly weakens the anesthetic inhalation by admitting a large proportion of inert nitrogen (four parts to one of oxygen), that imperfect anesthesia is the result.

In Dr. Hewitt's apparatus, by the provision of pure oxygen (admitted through

small holes from a second India-rubber bag attached to that containing the nitrous oxide), the needful 10 to 15 per cent. of oxygen can be inhaled, while the remaining 85 to 90 per cent. of tidal gas is the pure anesthetic nitrous oxide.

By the proper management of this mixture a tranquil anesthesia of several minutes' duration can be obtained with the face-piece continually applied, and the four desirable properties of safety, rapid unconsciousness, muscular relaxation, and freedom from after-effects, are secured for the performance of the surgical procedure and the benefit of the patient.

That nitrous oxide gas and oxygen is a perfectly respirable mixture, and a useful one under many conditions, even for the more severe operations if occasion require, the author has abundantly proved at Charing Cross Hospital, where he has maintained anesthesia in the operating-theatre during the excision of a varicocele lasting fourteen minutes, the incision and thorough scraping of a tubercular abscess in the neck lasting six minutes, the examination of hip-joints lasting several minutes each, the dilatation of urethral strictures by bougies, and in numerous other suitable cases.

Dr. Hewitt has maintained an anesthesia lasting twenty-four minutes, while an extensive exploration of the left hip-joint, which involved four incisions, was being performed.

It is well, in order to obtain the best results, that the inhalation should be conducted three or four hours after a meal; but unless to suit a particularly appointed hour, there need be no abstinence from the ordinary meals beforehand. P.

The Anticipation of Postpartum Hemorrhage

Dr. Atthill (*Brit. Med. Jour.*, March 26, 1897) says that ergot either alone or combined with strychnine may be taken by pregnant women without the least danger of bringing on abortion or premature labor. On the contrary, when taken about three weeks prior to labor, it has a tendency to delay the setting in of uterine contractions. If taken for several weeks prior to labor, the tendency to post-partum hemorrhage is distinctly diminished and the uterus undergoes a more perfect and thorough involution. Even in cases of threatened abortion, ergot frequently seems to act as a uterine tonic, and in some cases actually averts the danger of miscarriage, provided the ovum be not blighted or detached. If it is, ergot usually hastens its expulsion. R.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL.

Potassium Dichromate in the Treatment of Warts

Louvel-Dulongpré (*Progres médical*, July; *Treatment*, Vol. I, No. 15, p. 356) recommends this remedy for warts in man and the domestic animals as painless and leaving no scar. It is sufficient to paint the warts once a day with a saturated solution in boiling distilled water. When the solution cools a certain amount of dichromate is precipitated. The supernatant liquid is to be decanted and used cold. F.

Lotion in Anal Pruritus

Prof. Penzoldt is credited with the following formula (*Med. Week*, V):

Sodium Hyposulphite.....	6 parts.
Carbolic Acid.....	1 part.
Glycerin.....	4 parts.
Distilled Water.....	90 parts.

Compresses impregnated with this solution are applied to the anal region and changed frequently. F.

The Therapeutics of Typhoid Fever

Dr. Larrabee summarizes the treatment of typhoid fever as follows (*Georgia Jour. Med. and Surg.*, Vol. I, No. 6, p. 249):

1. Begin by a thorough bath, securing perfect aseptic cleanliness of person. Select an airy, well-ventilated room, exposed to sunlight, but rendered sufficiently dark to prohibit reading. Enforce a daily change of the bed-linen and oftener, if soiled. Give small, frequent doses of calomel and guaiacuin, while waiting for a positive diagnosis.
2. Keep bowels well open. If constipation be present, give Rochelle salts, securing one or more liquid stools each day.
3. As soon as the malarial element which is omnipresent in many districts has been eliminated from the diagnosis, quinine should be stopped, as it not only does no good, but often much harm, in typhoid fever. The occurrence of herpes labialis or facialis within the first few days is not only proof of the benefits of quinine, but almost conclusive evidence that the case is not one of typhoid fever.
4. Maintain intestinal antisepsis throughout the duration of fever by the use of the most reliable and least harmful antiseptics, of which a judicious combination is better than a single agent. The best list up to date includes guaiacol, benzoil, thymol, cinnamon, menthol, eucalyptol, and turpentine.
5. When temperature persists at 104 de-

grees, make use of guaiacol externally to a small area of the abdomen, not using more at one time than 30 drops for an adult. If the pulse and temperature-rate be greatly disturbed, begin at once the use of small doses of strychnia, and still use the guaiacol. Never use antipyrin or acetanilid, but as auxiliary measures body-sponging. Maniluvia and cold-water enemata and the rubber-water coil are admirable.

6. Stomach digestion, always impaired by high temperature, is, at 104° F., about nil. Give, therefore, only such diet as can be absorbed by the follicles of the intestine and will resist putrefaction and fermentative changes in the digestive tract. Give plenty of sterilized water, but not more than a gill at any one time. A drink made by pouring boiling water over dried apples is a most acceptable substitute in country practice.

7. Avoid narcotics, by the use of which the already cloudy typhoid cerebrum may forget to preside over the function of life. Some authorities, in their anxiety to correct the abuse of opiates, have overstepped the mark by saying "never." When a practitioner says never in medicine, he has already gone wrong. There are indications for the use of opium in typhoid fever, but they are few and far between. The dilated pupil affords a reliable guide, also restlessness and jactitation. Especially when given in hemorrhages, small doses of opium have saved many lives.

8. Make a physical examination of the abdomen at every visit, never allowing tympany to elevate above the anterior superior spinous process. In cases where this condition has already obtained, make use of the following enema, one-half of which may be injected in a pint of warm water, to be followed by the remainder if not relieved in two hours.

Ol. Terebinth.....	1 dr.
Rochelle Salts.....	1 oz.
Glycerin.....	4 oz.
Mft.	

9. Alcohol, by which is meant agents which depend upon alcohol for their stimulation, is not a necessity at any time in the treatment of typhoid fever, and often works an injury when a benefit is intended. As ordinarily administered, in full doses at long intervals, the nervous system is alternately stimulated and depressed. A cup of coffee or tea is far more permanent in effect and is usually more acceptable to the patient.

Cardiac therapeutics in typhoid fever is one of the most important considerations.

1. Because the necessity for helping the cardiac muscles sooner or later presents in every case.

2. Because the etiology and pathology

of such cardiac asthenia is not properly understood and appreciated, the proper means of relief will not be selected.

However valuable in organic diseases of the heart, digitalis has no place in typhoid fever. The lessened arterial tension in typhoid fever is commensurate with the impairment of the muscular structure of the heart. Digitalis stimulates the action of the heart by increasing arterial tension, thereby throwing upon it more work of resistance. Like a tired ox, goaded to work by prodding, it might make one sudden spring, which, in all probability, would be the last. Whenever it becomes necessary to assist the heart's action in typhoid fever, there is only one route to be taken, and but one agent to be considered, and that is the cerebro-spinal route, and the agent is strychnia. We should not wait for urgent and alarming symptoms before commencing small doses of strychnia.

The panicky condition often witnessed at the bedside should be anticipated and prevented. The signal for the use of strychnia should be the disturbed relation of pulse and temperature, which ought to be ten to one.

10. It is the duty of every practitioner to superintend the sanitation of the house and the patient. To see that a proper disinfection of all ejecta and dejecta is made. Chlorinated lime, hypochlorite of soda, or Labarraque's solution are safe, effectual, and convenient.

It is as criminal to put the undisinfected stools of a typhoid-fever patient in a vault, drain, or cesspool as it would be to put Paris green in a neighbor's well. R.

Euquinine

M. Overlach states (*Deutsche Med. Z't'g.*, No. 15, 1897, p. 135) that he has used euquinine as an antipyretic in pneumonia, pleuritis, pulmonary tuberculosis, influenza, abdominal typhus, and erysipelas, as well an antineuralgic, roborant, and alterative.

Among the special advantages that euquinine possesses over quinine he mentions its freedom from the intensely bitter taste that the latter has, making it therefore of special benefit in treating children, the absence, when given, of any untoward effect on the stomach in the great majority of cases, whether given in single large doses or continuous small doses, and the absence of any effect on the cerebrum that would cause the ringing in the ears. This ringing in the ears, it was found, might be produced by the first, and possibly by the second dose also, but was always absent after that. This would indicate that no cumu-

lative effects might be expected to follow the use of euquinine, which would of course be of considerable value, particularly where repeated large doses are exhibited. The writer employed euquinine in doses of 0.1 to 0.25 gme. for weeks in cases of anemia, chlorosis, mixed forms of both, and complications of abnormal conditions of the blood, without any disagreeable symptoms being observed. He also observed in many cases a noticeable increase in the quantity of hemoglobin in the blood, and a very satisfactory increase of the number of erythrocytes to follow the exhibition of small doses of euquinine for several weeks, accompanied by an improvement in the appetite and general condition as well.

In a case of unilateral cervico-occipital neuralgia occurring in a 16-year-old girl, euquinine was found to be in nowise inferior to quinine and its salts. The pain attained such intensity at the paroxysmal periods as to cause convulsions. The girl had also become very chloro-anemic. Dr. O. ordered a 1-gme. dose of euquinine whenever the pains became intolerable, and if this proved insufficient, to repeat the dose a few hours later. Further, the patient took 0.1 gme. morning and evening regularly. In three days the pains were sufficiently alleviated to permit the suspension of the 1-gme. doses, still continuing the 0.1-gme. doses, however, twice daily. At the end of three weeks the patient was on the way to full recovery. F.

Parotiditis Complicating Influenza

In the treatment of a very painful type of parotiditis complicating influenza, Dr. Tronchet, of La Rochelle, France, has met with success, generally within two days' time, by rubbing in the following ointment over the affected gland three times a day and applying a cotton-wool dressing (*Practitioner*, LIX, p. 570):

Ichthyol.....	3 gme. (45 grn.)
Lead Iodide.....	3 gme. (45 grn.)
Ammonium Chloride...	2 gme. (30 grn.)
Lard.....	30 gme. (1 oz.)

Static Electricity in Gout and the Uric-acid Diathesis

Dr. Robert Newman says that electricity is superior to all medicines and mineral waters in the treatment of gout—hereditary or acquired—and of the uric-acid diathesis (*Med. Rec.*, Vol. LII, p. 848). He himself had suffered most excruciatingly for twenty years with inherited gout; at times he could not move at all, or only on crutches, "in agonies." The prognosis given by one of the most prominent New York professors was

very unfavorable. At last he could take no more medicine, he grew very weak, and the physicians who saw him did not expect him to live; in fact, he was once declared dead. Seeing his low state, some physician friends ordered whiskey and beef-juice, which benefited him markedly and pulled him through the danger period. But he remained in a low state, crippled, and moved about on crutches most of the time. In 1893 he was advised to try static electricity, and since then he has been practically well and comfortable. The gout is not eradicated, but all acute attacks have been warded off by the timely use of the static machine. The action of static electricity is summarized as follows:

1. Static electricity is generally diffused in the body and penetrates deeply through tissues and joints.

2. It acts as a general tonic.

3. The breeze from the static machine allays any pain, in most instances in five minutes. In very painful affections of the joints it needs several applications before the pain and infiltration are removed; but when an attack is in progress, after three applications in a single day freedom of motion and cessation of pain should be expected.

4. Headaches and confusion of the brain and the uneasiness of the mental forces are removed by the breeze.

5. It equalizes the temperature and restores it to a normal degree, no matter if the temperature has fallen or been raised through the disease.

6. The circulation is equalized, and the icy coldness of the feet, which is such a distressing symptom in gout, is removed.

7. The animal heat is favored, the action of the skin restored, and even diaphoresis evoked.

8. It stimulates the organs to a better secretion. The liver, bowels, kidneys, etc., which were sluggish in their action, will resume their normal function.

9. It favors the excretion of effete material, purifying the system of uric acid, etc.

10. It removes nervous debility.

11. There is an absorption of inflammatory products, in joints as well as of fluids, as we find in anasarca.

12. It replaces exercise and acts as passive motion.

The author concludes his article with the following conclusions:

1. There is a variety of causes and symptoms of gout.

2. The diet and treatment, etc., cannot be stated as a routine for all cases alike.

3. It is wrong to treat the disease; the patient must be treated as an individual, according to indications.

4. There are some points in gout and in

uric-acid diathesis which are not understood at present.

5. Hereditary gout exists, and will manifest itself in individuals, without their own fault.

6. Hereditary gout as a diathesis cannot be eradicated by any treatment, nor is it a consequence of overfeeding or the use of fermented liquors, for the reason that it has been observed in females who dieted and never drank liquors or beer.

7. Static electricity is the best treatment in hereditary gout and will prevent attacks if used judiciously at the right time, and thereby keep the patient comfortable and apparently well.

8. Static electricity and other electric currents will cure many of the other varieties of rheumatism and gout. R.

Coryza

The following is culled from the *Jour. des Practiciens*:

SNUFF

Bismuth Subnitrate.....4 gme. (1 dr.)
Powdered Camphor....0.4 gme. (6 grn.)
Powdered Boric Acid...0.2 gme. (3 grn.)
Morphine Hydrochlorate,
0.03 gme. (½ grn.)
Cocaine Hydrochlorate,
0.015 gme. (¼ grn.)
Powdered Benzoin.....1 gme. (15 grn.)

The following prescription may be used internally:

MIXTURE

Extract Hyoscyamus...0.6 gme. (10 grn.)
Potassium Iodide.....4 gme. (1 dr.)
Potassium Bicarbonate...8 gme. (2 dr.)
Extract Licorice.....4 gme. (1 dr.)
Anise-water.....100 gme. (3½ fl. oz.)
Desertspoonful every four hours.

Iodogallicin

Iodogallicin (Bismuth Oxyiodemethyl gallol) is allied in chemical composition, as well as similar in antiseptic action, to airol, and is claimed to be therapeutically superior to iodoform. It is prepared by the action of bismuth oxyiodide on the methyl ester of gallic acid (gallicin). It occurs as a light, amorphous, dark-gray powder, insoluble in the ordinary solvents. Acids, alkalies, and water, by long-continued action, decompose it into its constituents. It contains 23.6 per cent. of iodine and 38.4 per cent. of bismuth. Definite data regarding its effectiveness or application are wanting.

Pyraloxin

Pyraloxin is the name given by W. Mielck, of Hamburg (*Pharm. Ztg.*, XLII, p. 565), to oxidized pyrogallol. This remedy was recommended by Dr. Unna as being far superior to the ordinary pyrogallol

in skin-diseases, because the various inconveniences experienced when using the latter—irritation and staining of the skin, symptoms of toxicity by absorption, etc.—are avoided. Pyraloxin is prepared by exposing pyrogallol to the action of the air and to ammoniacal vapors. It occurs as a deep-brown or black powder, slightly soluble in water, but insoluble in absolute alcohol or in ether. Its advantages have been demonstrated by Unna in psoriasis and eczema, by comparative tests with ointments of pyrogallol and those of pyraloxin. It was found that where the former was used, although a cure was had, as usual, yet the circumference of the lesion became colored black, and, where the skin was sensitive, even became the seat of an erythematous or papulo-pustular dermatitis. On the spots treated by pyraloxin the curative effect was the same, but there was no trace of discoloration nor of pyrogallic dermatitis.

The property of not irritating the teguments renders this substance particularly valuable in the treatment of erythematic lupus.

Soziodole Preparations in the Treatment of Eye-diseases

In a report on the use of soziodole preparations in eye-diseases, Dr. Benjamin Bjelilowsky states (*St. Petersb. med. Wochens.*, XXII, p. 35) that he has used these preparations with great success, as follows: In 114 cases of acute conjunctival catarrh, a 4- to 6-per-cent. solution of the sodium salt was used as an eye-bath, and then, after previous application of cocain, a 6-per-cent. solution of the zinc salt as eye-drops. When the secretion is not very abundant, he employs a 10-per-cent. solution of the sodium salt as eye-drops, this being somewhat less irritating than the zinc salt, and lotions of 1 per cent. of the zinc salt in a 1- to 2-per-cent. boric-acid solution. This reduced the period of treatment from fourteen or eighteen days down to six or eight days; ninety-two (80.7 per cent.) of the cases were cured, and in twenty-two (19.2 per cent.) relief was had. Of chronic conjunctivitis, 186 cases were treated. In these, where the secretion is not abundant, and roughness of the mucous membrance exists, a 4- to 6-per-cent. solution of the zinc salt, or a still more irritant form of treatment with a 2-per-cent. mercury soziodole ointment (of vaselin or lanolin) is employed, in conjunction with a 1- or 2-per-cent. zinc or sodium soziodole solution as a wash for the eyes morning and night. Of these cases mentioned, 179 (96.2 per cent.) were healed and seven (3.7 per cent.) relieved.

Three cases of blennorrhic inflammation

were treated as above also, and all successfully in a very short time. In phlyctenular conjunctivitis, accompanied by decided symptoms of irritation and congestion, instillations of a 2, 4, or 6 per cent. of a zinc or a 1-to 2-per-cent. mercury soziodole solution were made, after previous application of atropin and cocain. The symptoms of irritation and photophobia rapidly disappeared under this treatment. Extended phlyctena the author treats with a 5- to 10-per-cent. mercury soziodole solution applied by means of a pledget of cotton, after the previous application of cocain.

Of trachoma, sixteen cases were treated—ten of granular, four of mixed granular and papillar form, and two of decided corneal pannus. In treating these cases, the eyelids were everted, and after the application of cocain, the papillæ crushed and then treated with powdered zinc soziodole. To relieve the subsequent pain a 4-per-cent. cocain-solution was used. On the following day, after removing the skin formed on the mucous membrane, eye-drops were used in form of a 6- to 10-per-cent. zinc soziodole solution or a 2-per-cent. solution of the mercury salt, and in conjunction with a 2-per-cent. cocain-solution. In this manner nine (64.2 per cent.) cases were cured within three weeks and three (21.4 per cent.) were relieved within two weeks. In two cases the treatment was ineffectual. Corneal opacities and dacro-cystoblennorrhæa were successfully treated, as were cases in which subconjunctival injections of soziodole salts were made instead of the corrosive sublimate ordinarily employed. A 1:2000 solution of the mercury soziodole was used in chronic parenchymatous keratitis and iritis, one-half a Payaz syringeful being the quantity injected. Three cases of hypopyon keratitis were similarly treated, as were also two cases of croupous conjunctivitis (diphtheritic), and all with excellent results. In the last-mentioned cases, irrigation with a solution of the mercury salt was employed also.

Taken altogether, the author believes the soziodole salts to be the best and most certain of remedies in the treatment of eye troubles, and hence recommends their use.

Creosote in Gastric Affections

According to Dr. Theodore Zanger, of Zürich (*The Lancet*, No. 3859, p. 404), who has contributed a paper on creosote to the *Corresp. für Schweiz. Aerzte*, the present tendency to think that the larger the dose of this drug the better in phthical cases is by no means justified by experience, for the best results are often obtained with very

small doses indeed. He believes that their beneficial effect is due to their action on the stomach, causing it to do its work better and so to improve the nourishment of the system. He finds that in many cases of purely gastric affections, with or without diarrhea or other intestinal symptoms, minute doses of creosote will often succeed when other remedies have failed. In the gastro-enteritis of children and in the vomiting of pregnancy he has been greatly struck with its effects. The doses he gives vary from one-eleventh of a grain in children to one-third of a grain in adults. He prescribes it with enough spirit to dissolve it in a spoonful of water, with or without mucilage. Black coffee or mint-tea may be employed, if necessary, to disguise the taste. Where infantile diarrhea exists without vomiting he has often found creosote valuable. In the milder forms of the vomiting of pregnancy small doses of creosote have always produced an improvement, and he thinks that even in severe cases a trial of the same treatment should be made.

Stypticin

Dr. M. Nassaur, assistant at Dr. Gottschalk's clinic, Berlin, reports (*Pharm. Post.*, XXX, p. 535) on the further use of stypticin, in 120 cases in which specifically prompt and rapid effects were had, particularly in all cases of uterine hemorrhages and menorrhages. He states that the remedy is far superior to ergot and hydrastis in these affections, in small doses, and exhibits it in the form of an injection in 10-per-cent. aqueous solution, or pills each of 0.05 gme. four times daily, or in powder 0.1 gme. No by-effects were observed, even doses of 0.4 gme. causing no symptoms of intoxication. F.

Tannalbin in Infant Practice

Tannalbin has been used in seventy-five cases of intestinal complaints in children by Dr. Hans Osk. Wyss (*Corresp. Blatt. für Schweiz. Aerzt.*, 1897, No. 15). Of this number fifty-three were cured and ten improved. The writer found that in enteritis and acute gastro-enteritis its action was always prompt, even the day following the administration the number of the dejections decreasing, and their color and consistency improved. Cases of subacute intestinal and gastric catarrhs were cured in a few days, and in a few cases where all other remedies had failed. Nor was its action any the less satisfactory in chronic, serious intestinal catarrhs, and particularly in those of a tubercular character. Its action, though slow, was certain in cases where even opium in large doses was inef-

fectual. Chronic rectal catarrh was also rapidly cured, and, in short, tannalbin was found to be one of the best and most reliable anti-diarrheal remedies, no deleterious by-effects ever having been observed to follow its use. On the contrary, an improvement in the appetite was uniformly observed to follow its administration. The doses given were 0.25 gme. for two to six times a day for nurslings and children up to 2 years of age, and 0.5 gme. for children from 2 to 5 years of age, given from three to five times a day. At times the remedy was also given in the form of an injection per rectum, in the dose of 0.5 gme., with starch, when excellent, rapid results were obtained, especially when the remedy was given per os also.

Phesin

A new antipyretic has been introduced under the name of "Phesin." This substance is a sulpho-derivative of phenacetin.

It forms a pale reddish-brown, light, amorphous, odorless powder, having a mildly caustic and saline taste. It is very easily soluble in water, forming a slightly acid solution of a Bismarck brown. Its therapeutic value, as well as that of cosaprin, has been studied by Drs. Von Vámosy and Fenyvessy (*Therap. Monatsch.*, XI, p. 428), and the results arrived at are summarized as follows: Both preparations possess energetic antipyretic power, in consequence of which they may well replace the bases from which they are made. Their advantages over phenacetin and acetanilid are that (1) they are very readily soluble in water, rendering their employment in solution not only easier, but permitting of their use subcutaneously as well; (2) the effects produced by them set in very rapidly; and (3), compared with their bases, they are harmless. Perhaps the only disadvantage is the short period of their activity, but this may be compensated for by successive exhibitions of small doses.

Orthoform

Dr. H. Neumeyer states (*Münch. med. Wochenschr.*, XLIV, p. 1230) that he has used orthoform or its hydrochlorate in a number of cases, among which were sixteen cases of laryngeal ulcer, nine of pain due to gastric ulcer, two of urethral pains, two of painful wounds and also a number of ischias, tabes, headache, etc. The results obtained in these cases go to show that orthoform possesses a commanding power as a local anesthetic, as a single application suffices in various painful affections to pro-

duce a complete anesthesia lasting for hours, and sometimes even days. This intense analgesic effect is only exerted, however, when the orthoform is brought into direct contact with exposed nerve-ends. Hence, while painful ulcers of the buccal or laryngeal mucosa may be completely anesthetized for long periods, no noticeable effect is produced in painful anginas. The application of the remedy to intact mucosa is therefore valueless. For this reason also, excellent results were had in painful gastric affections where ulcerative processes were certainly present, whereas where these were absent no noticeable effect was observed.

Where orthoform can be brought into direct contact with the nerve-ends, it possesses a power equal to that of cocain, but which is exerted for a longer period. A wide field is open to its useful application in painful ulcerations of the mucosa of the genito-urinary tract and conjunctiva. The remedy is particularly of great value on account of its entire freedom from toxicity, no unpleasant or pernicious effects ever having been observed to follow its use, even doses of from 3 to 4 gme. daily never causing nausea, change in urine or intestinal irritation (diarrhea, etc.).

Both orthoform and its hydrochlorate were found to possess about equal value, but preference is given to the base, where it is possible to apply it (as it acts best when brought into direct contact in substance with the affected part), because the hydrochlorate is liable to irritate the tissues on account of its decidedly acid reaction. B.

Formaldehyd in the Treatment of Diseases of the Nose, Ear, and Larynx

In an article published in a Russian journal, Yatcouta (*Therap. Gaz.*, XXI, p. 610) describes the results he has obtained in the treatment of these affections by the use of formaldehyd-solutions. In the treatment of laryngitis and chronic nasal affections he places a 5-per-cent. solution of formaldehyd in a glass carafe and instructs the patient to inhale the vapor arising on shaking the vessel. This treatment is carried out two or three times a day, and lasts from five to ten minutes. He asserts that in the treatment of acute laryngitis the results are most favorable, a complete cure being arrived at in from seven to twenty-four hours in the sixteen cases in which he tried it. In three cases of acute coryza the condition disappeared in twenty-four hours after the use of three or four douches of a weak formaldehyd-solution. He also believes that in catarrh of the Eustachian tube the use by means of a Eustachian catheter of formal-

dehyd-solution is of value. The employment of this treatment produces a sensation of burning and tingling in the nose or in the throat, and sometimes cough. There is also apt to be some irritation of the conjunctiva, with coryza.

Tribenzoylgallic Acid

A preparation has been patented in Germany under the name of "Tribenzoylgallic Acid." It is said to be prepared by agitating an alkaline solution of gallic acid with benzoyl chloride, and purifying the resulting product by recrystallization after exhausting the boiling water. It is insoluble in water, readily soluble in hot alcohol, but difficultly so in cold, and moderately so in hot benzol. It is colorless, odorless, and tasteless. It appears to be absolutely unaffected by keeping, or by all substances with which it comes into contact in the mouth, esophagus, and stomach. It passes these entirely undecomposed, but in the intestines is very readily split up, gallic acid then being liberated and exerting its specific astringent properties.

Protargol

Silver has been combined with certain proteins by Dr. A. Eichengrün (*Pharm. Centrall.*, XXXVIII, p. 439) to produce a new remedy named "Protargol." This is intended to replace the silver preparations commonly employed which form insoluble compounds with organic tissues when applied to them. Protargol is decomposed neither by acids, alkalis, nor alkaline sulphides, nor is it precipitated by albumin or sodium chloride. It occurs as a bright-yellow powder, easily soluble in water, and particularly so when first moistened with a small quantity of the solvent. The bright-brown clear solutions, which may be made to contain up to 50 per cent. of the remedy, are neutral in reaction and undergo no change on warming, but simply darken on prolonged heating or continued exposure to light. Protargol contains 8.3 per cent. of silver, and is reported to exceed argonin and argentamin in germicidal power, these latter containing only 4.2 per cent. and 6.3 per cent. of silver respectively. Concentrated hydrochloric acid yields a precipitate in protargol solutions, consisting not of silver chloride, but of unchanged protargol, which redissolves on dilution with water.

The remedy is declared by Dr. Bennario, of Frankfurt, to be of high bactericidal power, and particularly opposed to suppuration, a fact that would appear to make it specially available as a vulnerary. Solutions of from $\frac{1}{4}$ to 1 or (in obstinate cases) 1.5 per cent. have given excellent results in

gonorrhea. Even 5- to 10-per-cent. solutions have been used, in urethritis in the female, without causing any irritation. In fact, it is stated that in spite of its high silver-content the remedy causes neither irritation nor pain. Dr. Neisser also asserts that he has never obtained such uniformly good and certain results in gonorrhea as he has since he is using protargol.

Tribromide of Salol, or Cordol

The *Med. Week*, Vol. V, p. 504, says that Dr. Rosenberg (Berlin) has recently experimented with a new drug, tribromide of salol, or cordol, which is said to act both as a narcotic and hemostatic. It is a white powder, without taste or odor, insoluble in alcohol and ether, but readily soluble in acetic acid and chloroform. The dose is from 50 ctge. to 2 gme.

Salol tribromide has been tested by Dr. G. Dossenville in the wards of Dr. Combe-marle, professor of clinical medicine at the Medical Faculty of Lille, and the results obtained have fully confirmed Dr. Rosenberg's description of its therapeutical properties. It is in fact an excellent hypnotic, capable of inducing a refreshing sleep even when there is pain. For this purpose it is necessary to begin at once with a dose of 2 gme., which may be reduced to 1 gme., inasmuch as the narcotic effect of the cordol is persistent.

Dr. Dassonville has also proved the hemostatic action of cordol—of which Dr. Rosenberg has taken advantage in the treatment of menorrhagia—in the case of a woman, in whom the menstrual period had just begun when the drug was administered for combating persistent insomnia. Within a few hours the catamenial flow ceased, although her menstruation had been regular up to that time, lasting for several days.

Nosophen and Antinosin in Ophthalmology

Dr. R. S. Patillo (*North Amer. Pract.*, December, 1897) has used the above preparations as a substitute for iodoform and nitrate of silver in diseases of the eye. The author believes that the disagreeable odor of iodoform and the irritating qualities of nitrate of silver make both drugs objectionable. He quotes a German writer, Dr. Hoor, who says that nosophen is a tetraiodophenolphthalein, a combination of iodine and phenolphthalein, the amount of iodine present being 61.7 per cent. It is a light brown-yellowish powder, insoluble in water and acids. The writer has used nosophen in over twenty-five consecutive cases in which there were indications for the use of iodoform, with most excellent results. In

no case could be seen the least objectionable symptoms from its use. So firmly is Dr. P. convinced of its antiseptic and non-irritating effects that in both clinical and private practice he has given up the use of iodoform entirely.

Antinosin is the sodium salt of nosophen. It is a dark-blue amorphous powder which is readily soluble in water. It is odorless, non-toxic and non-irritant. In conjunctivitis phlyctenulæ, blepharitis and ulcer of the cornea the author has taken fifty consecutive cases which were treated with antinosin and in which he had a rapid and beneficial result in all but a few cases. On account of its non-irritating effects, it can be used as strong as a 3-per-cent. solution, enabling the patient to continue treatment at home. Especially in young children is its use gratifying.

The author has also used antinosin with benefit in a case of interstitial keratitis occurring in a man 26 years of age. In this case antinosin, 2 per cent., was prescribed to be put in the eye every two hours, together with hot applications. Recovery was obtained in two weeks.

Other cases mentioned are the following:

Mrs. E. L., age 74 years. April 26—Eyes have been much inflamed and very sensitive to light for past three months. Diagnosis: Acute conjunctivitis of both eyes and trichiasis of the lower lids. Treatment: Cilia removed and antinosin, 2 per cent., prescribed. May 17, 1897—Reports that she can read or sew for half an hour in the evening. Eyes much improved, and conjunctiva normal.

F. F., age 1 month. May 12, 1897—Three days after birth the eyes began to discharge freely, and the lids stuck together. Diagnosis: Ophthalmia neonatorum. Treatment: Antinosin 7 grn., aqua $\frac{1}{2}$ oz., was given to drop in the eye every two hours. May 15—Eyes much better. May 28—No discharge; cornea clear.

Edna H., age 5 years. June 2, 1897—Eyes have been very red and inflamed for the past week. Intense photophobia. Diagnosis: Phlyctenular conjunctivitis. Treatment: Antinosin, 2 per cent., three times a day, was prescribed and the diet regulated. June 14, 1897—Reports to clinic, eyes much improved. June 21—Eyes quite well.

A. G., age 11 years. July 26—Left eye has been very sore and inflamed for the past week. A great deal of photophobia and lachrymation. Diagnosis: Phlyctenular conjunctivitis. Phlyctenula at the lower margin of the cornea. Treatment: Antinosin, 2 per cent., three times a day, was prescribed. Aug. 2—Eye much better. Treatment continued. Aug. 5—Phlyctenula com-

pletely disappeared. Aug. 10—Eye normal.

J. W., age 14 years. July 19, 1897—Both eyes, trachoma acute with suppuration. Pannus crassus. Chronic conjunctivitis. Discharge very profuse, forming crusts on the cheeks. To check the discharge, antinosin, 3 per cent., was used three times a day. July 23, 1897—Discharge more watery in character. Antinosin continued. July 28, 1897—Discharge completely ceased, so that the surgical treatment of the lids was commenced. G.

Ichthyol in Measles

Dr. Kolbassenko (*Deut. med. Ztg.*, XVIII, p. 663) states that he has used ichthyol in eighteen cases of measles with excellent results. It was used in the form of an ointment of the following composition:

Ichthyol.....	10 gme.
Expressed Oil Almonds.....	60 gme.
Lanolin.....	20 gme.

The ointment was applied three times daily to the pustules from the time of their appearance to the end. Prior to their appearance, in the febrile prodromal stage, when measles is suspected, the writer applies the following mixture to the entire body:

Oil Eucalyptus.....	} Equal parts
Ether.....	
Lanolin.....	

The excellent effects of ichthyol were shown by (1) the slight itching accompanying the eruptive period, the affected parts being slightly or not at all painful; (2) the lowness of the fever, not over 39.5° C. in the suppurating stage; (3) the visible smallness of the suppuration of the pustules; (4) the period of desquamation was from three to four days—half the time usually required. The applications were also very well borne by all the children treated.

Quinopyrin

Investigations have been carried on for some time by Dr. C. G. Santesson (*Therap. Beil. d. Deut. med. Wochenschr.*, XXIII, p. 57) regarding the use of quinine subcutaneously, and as a result he confirms the fact, first pointed out by an Italian chemist, that the comparatively slight solubility of the quinine salts may be remarkably increased by combining them with antipyrin. He was thus enabled to make an aqueous solution containing 50 per cent. of quinine hydrochlorate and 33 $\frac{1}{3}$ per cent. of antipyrin, and to this he has given the name "Quinopyrin." It was found to be particularly suitable for subcutaneous injection in cases where the administration per os was impossible on ac-

count of idiosyncrasy, or inadvisable from other causes.

This combination was first used by Dr. Blum in a large number of cases of epidemic malaria, and with great satisfaction. Adults received injections of 1 c.c. of the solution, corresponding to 0.5 gme. of quinine; the maximum amount given was 1.5 gme. per day of the quinine salt. The injections were made into fleshy parts, after previous thorough cleansing, and antiseptics of the region had been assured. The results obtained were excellent. The violent headaches were rapidly subdued, and the patients soon fell into a refreshing sleep. Diaphoresis only was somewhat increased. The most remarkable thing observed was the absolute painlessness of the injections.

These experiences led Dr. Santesson to experiment on himself with the mixture, as well as to investigate its physiological action on animals. He soon discovered a curious fact. When he took 1 gme. of quinine and 0.66 gme. of antipyrin in the mixture-form subcutaneously, only a slight quinine intoxication was experienced, the temperature and pulse being scarcely changed. When, however, only 0.5 gme. of quinine and 0.33 gme. of antipyrin were taken per os, numerous toxic symptoms set in, such as scratching sensation in the throat, sneezing, redness, heat, and itching of the skin, edema of the lips and eyelids, slight increase of pulse, and fall of one degree in temperature, but no ringing in the ears. All these symptoms passed off, however, in from three to four hours. No pain was caused by the injections, but it was noticed that on the day following the injection small, sensitive indurations formed at the site of injection, which were free from spontaneous pain.

Asthma Drops

Tincture Opium.....1 vol.
Ether.....2 vol.

Fifty drops every half-hour until the spasm is relieved.

Ichthyol in Epididymitis Blennorrhoea

According to S. Mayländer (*Monatsh. prak. Dermat.*, XXXIII, p. 607), by the employment of this remedy the pain rapidly subsided, the swelling was reduced in a short time, and the patients were enabled to resume their ordinary occupations in from three to five days.

The affected parts are painted with a diluted ichthyol solution, and then covered with cotton and a protective bandage. The author recommends the following formula:

Ichthyol.....12 parts.
Glycerin.....9 parts.

F.

REVIEWS

A System of Medicine.—By Many Writers. Edited by Thomas Clifford Allbutt, M. D., etc., Regius Professor of Physic in the University of Cambridge, etc., Volume IV. The Macmillan Company, 66 Fifth Avenue, New York. Price \$5.00.

This volume, of this admirable system of medicine, deals with Diseases of Alimentation and Excretion, and Diseases of the Respiratory Organs. The subject-matter is arranged in sections, and each individual subject is discussed in sub-sections, by men of ripe experience. Again, each article is provided with a carefully selected bibliography, thereby augmenting its value as a work of reference.

All the monographs are well written and bear witness to the fact that they are not compilations of other text-books. The authors present their subject in a clear, concise, and comprehensive manner. It is doubtful whether anything better can be found in English or American medical literature than the articles dealing with the various form of diabetes. So, too, must we commend the articles on the various forms of rheumatism and gout.

The press-work is excellent. The editor has done his part so well and has selected his writers so admirably that he certainly must be proud of his work, for he has given us a system which is already an important and notable addition to medical literature.

Archives of the Roentgen Ray (Formerly Archives of Skiagraphy)—The only journal in which the transactions of the Roentgen Society of London are officially reported. Edited by W. S. Hedley, M. D., M. R. C. S., etc., and Sydney Rowland, M. A., M. R. C. S., etc. London: The Rebmman Company, Limited. American Agent: W. B. Saunders, 925 Walnut Street, Philadelphia, Pa. \$1.00 per number. Issued quarterly.

Although this publication has assumed the form of a journal representing the Roentgen Society of London, yet it is so like an atlas or book issued in serial numbers it well deserves special notice among book reviews. Whoever seeks to keep pace with the progress of discovery in the various departments of science in which skiagraphy is used cannot possibly do without this publication. The pictures it contains are magnificent works of art and tell their own story better than pages of description. Two numbers of Volume II have already appeared, together with a supplement on Radiography in Marine Zoology that may be deemed a third. He would indeed be a severe critic who should find fault with work so well done. It is a rule of the Archives not to accept any illustrations that have already been published in another journal, thus assuring originality to its contents. The first number of the new volume contained a paper on the Nature of the Roentgen Rays, by Prof. Sylvanus P. Thompson, D. Sc., F. R. S., the well known physicist; A Survey, Present and Retrospective of the Roentgen Rays, by Dr. Hedley; a report of the doing of the Roentgen Society, descriptive text of the various plates supplied by the gentlemen who photographed them or attended the patients from whom they were taken, and news-notes of interest to students of skiagraphy. The November number gives a list of the members of the Roentgen Society, the presi-

dential address of Prof. Thompson, *Methods of Localizing and Measuring Hidden Bodies*, by Ernest Payne, A. M., reviews, notes and the descriptive text of the plates. Except in the supplement all the plates are of diagnostic interest to physicians and surgeons, as they illustrate cases of hip-disease, bony ankylosis of the knee, ankylosed elbow, acromegaly, gout, vesical calculus, dislocations, deformities, localization of bullet, phthisis pulmonalis, obstruction of the esophagus, fractures, etc.

Genito-urinary Surgery and Venereal Diseases

—By J. William White, M. D., Professor of Clinical Surgery, University of Pennsylvania, and Edward Martin, M. D., Clinical Professor of Genito-Urinary Diseases, University of Pennsylvania. Illustrated with two hundred and forty-three engravings and seven colored plates. Philadelphia: J. B. Lippincott Company, 1897. Cloth \$6.00, Sheep \$7.00, and Half-Russia \$7.50. Sold by Subscription only.

This handsome octavo volume of about eleven hundred pages is just such a work as the general practitioner and student need. It is practical, clear and concise in every detail of statement. One can see when reading it that the authors know from experience with students just what is most valuable to men who have not the opportunities of a specialist in this class of diseases. They emphasize symptomatology, diagnosis, and treatment by devoting much space to them rather than to historical considerations. They give exact and minute details in operative and manipulative technique as well as genito-urinary antisepsis, because as they assert truly these constitute the basis of all good work in this field. The chapter on the urine has more really valuable matter than can be found in some pretentious volumes that deal exclusively with this subject. Everything is excluded that has not an immediate and well-stated bearing upon diagnosis. About one-fifth of the volume is devoted to syphilis, one-eighth to gonorrhea and the rest to other diseases and injuries. The plates and figures are very fine, the colored ones being particularly good. It is needless to say that the publishers have done their best to produce excellent workmanship for that is what they do with all books they issue. The writer heartily commends the volume to all general practitioners and students as among the very best, if not, indeed, the very best on the subject that has been published up to the present time.

The Treatment of Disease by Electric Currents:

A Hand-book of Plain Instructions for the General Practitioner. By S. H. Monell, M. D., Founder and Chief Instructor of the Brooklyn Post-Graduate of Clinical Electro-Therapeutics and Roentgen Photography. New York: William Beverly Robinson, 3 and 5 West Eighteenth Street, Manhattan Borough, 1897.

To the average medical man this volume will prove a revelation of a most remarkable kind. While all have a general knowledge of the fact that electricity can be used to great advantage in some diseases, but few are aware of the vast scope of usefulness it can subserve. Dr. Monell shows us that its range of utility is almost as broad as the whole modern materia medica. Indeed his claims are so large that a good degree of scepticism on the part of the non-experienced is certainly quite pardonable. We could not in the short space allotted us for this review give a

tithe of the names of complaints benefited by this mode of treatment according to the author. His enthusiasm, too, is contagious, for as the reader proceeds he is unconsciously carried away into believing without seeing. The volume is marred by one serious defect that might with benefit have been eliminated. We refer to its pugnaciousness. Dr. Monell is evidently a born polemist. He cuts right and left in a most unmerciful manner at his opponents. He is a clear, forceful writer, and puts his subject before the reader in a way that cannot be misunderstood. His directions are all examples of perfect lucidity and just such as the practitioner needs when beginning the study of so fascinating a subject. One important fact all should know and which he puts special emphasis upon is that the ordinary faradic box supplied to physicians by druggists is the worst enemy scientific electro-therapeutics has to meet. It prejudices all who try it against better instruments. The work of a good static machine and of one of those boxes is absolutely as incomparable as the medical advice of an Osler with that of a savage. This book should be in the hands of every person interested in electro-therapeutics. The paper, press-work, typography, and binding are all excellent.

A Text-book of the Diseases of Women.—By

Henry J. Garrigues, A. M., M. D., Professor of Gynecology and Obstetrics in the New York School of Clinical Medicine; Gynecologist to St. Mark's Hospital in New York City; Gynecologist in the German Dispensary in the City of New York; Consulting Obstetric Surgeon to the New York Maternity Hospital. W. B. Saunders, Philadelphia.

The first edition of this work has become so popular that the recent announcement of a second just issued is good news to the profession.

The entire subject-matter relating to diseases of women is handled in a manner that can hardly be improved upon. The whole ground is carefully gone over by the author, who has kept constantly in mind the necessity of understanding the normal before attempting to grasp the abnormal. He has also given a great many excellent illustrations with anatomical and physiological explanations that will satisfy the most critical. His descriptions of diseases and their treatment whether medicinal or operative are not so lengthy as to be cumbersome nor yet so short as to leave unsaid all that is essential to the general practitioner and student.

Every one must admit, on perusing this volume that aided by his excellent publisher, whose work in this instance is up to his usual high standard, the writer has placed a valuable, up-to-date book in our hands.

The American Psychological Association claims the distinction of being the oldest medical organization in America. It is composed of superintendents of public and private insane asylums and of medical men who make nervous diseases a specialty. It is said to have a membership of nearly 300. Its fifty-fourth annual meeting will be held in St. Louis, Mo., on May 10, 1898. Dr. Buck, of London, Ontario, is president, and Dr. Burr, of Flint, Mich., secretary.

The bill "To Restore Medical Freedom to the People of the District of Columbia" is wending its way along, backed up by the quacks. Health-Officer Woodward returned it a short time ago to Chairman Babcock with an unfavorable report. He declares that in his judgment nothing favorable can be said of the bill.

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE

Issued on the 10th and 25th of the Month

HORATIO C. WOOD, M.D., LL.D., Editor
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EDITOR'S NOTES

Our readers will be sorry to learn of the death of the talented editor of the *British Medical Journal*, Mr. Ernest Hart. He has been a sufferer from diabetes mellitus for some time, and lately underwent a serious operation at the hands of London surgeons. He was one of the most earnest workers in behalf of medical science in the world. He will be missed by thousands of medical men in every part of the civilized earth. Would that there were more Ernest Harts in our ranks!

An effort is now being made to have a bill passed by Congress to establish a National Department of Health. It is to be hoped that those having the matter in charge will be able to convince our law-makers of the great necessity for such a department. There is no other important nation in the world that has not one. The yellow-fever epidemic in the South has probably won over a good many from that part of the country to the belief in its need. By all means let us have a National Department of Health.

Randall's Island Hospital has made an awful record for itself if the report of the New York State Charities Aid Association is even half true. Out of 366 patients 354 of them have died, giving a mortality of 96.7 per cent. The average duration of life was one and one-quarter months. The report says: "To chloroform these infants would be

more humane, and would it be more criminal than it is to subject them to conditions in which their life is prolonged in neglect and suffering for an average period of not quite six weeks?" All this is due to lack of proper nurses and bad sanitation in old infected buildings. It has been suggested that Herod should have known of Randall's Island methods in his day, so that he could have been more successful in the murder of the innocents. Such a state of things is a crime of the most brutal kind, and will stand for all time as a disgrace to the Commonwealth that permitted it within its borders.

Last month two thugs robbed and murdered a woman in Kansas City. During the encounter one of them is supposed to have been shot and seriously injured, thus needing the attention of a surgeon. The police in trying to trace the murderer found themselves running counter to medical ethics. A reporter of the *Kansas City Times* visited a number of the leading medical men of that region and questioned them on this delicate and important point. The majority said that they would not expose their patient if such a one should come to them for treatment. A few thought that they would hand him over to the police. What should a doctor do in such a case? If it would be right to expose such a patient, why would it not be equally right to protect the innocent by publicly announcing that certain honorable citizens are suffering from syphilis, gonorrhea or other vile and dangerous diseases? If professional secrecy must be maintained in one case, it certainly should be in the other. Have any of our readers a word to say on this topic?

Dr. C. D. Arnold, of El Reno, Okla., is gathering statistics of criminal abortion and wishes the co-operation of every physician in the United States in his effort. Will our readers aid him as much as they can in the research? The editor of the *Oklahoma Medical Journal* says that the "doctor is conscientious, painstaking, and energetic in all his undertakings, and we feel sure that every doctor who complies with his request for information along the line he has taken up, will feel more than repaid for his trouble when the results of this investigation are published in the medical journals." Dr. Arnold wants to know the number of abortions that have come under your observation among your patients, together with those that you know occurred without the attendance of a reputable physician, the number that were of a criminal nature, the number

that were probably of a criminal type but not certain, the number of deaths that resulted from the apparently criminal and from those that were possibly criminal, the number of still births you have attended, the number of cases of infanticide you have seen, the number of viable children born in your care, and the number of cases of puerperal mania you have witnessed due to criminal and probably criminal cases of abortion. Any intent on the part of a woman to get rid of her pregnancy he calls criminal; and any expulsion of the contents of a pregnant uterus during gestation and up to the seventh month if unavoidable, or up to full term if criminal, he classes as an abortion. He only wishes such statistics for 1897. The doctor imparting such information need give no more than his initials if he prefers to do so.

That the worst foes of medicine are the short-sighted members of the medical profession has received a very startling illustration in an event connected with the recent yellow-fever epidemic in the South. The Board of Health of Atlanta, Ga., had the bill of Dr. J. C. Olmstead for services in attending a Mobile refugee lately under consideration. The doctor asked \$500 for making sixty visits on the yellow-fever patient and four visits on a suspected case, together with attending to some details that required extra care. In spite of the fact that the doctor was called in as an expert consultant to see and attend to the cases, and regardless of the further fact that he was forced to abandon his regular practice while thus favoring the Board, they challenged his bill as an exorbitant one. To an impartial outsider the wonder must be that Dr. Olmstead was so modest in his charges. We venture to say that no New York expert would have rendered such a service for three times the fee asked by him. It has been customary lately for judges to cut down medical fees to sums that are beggarly, as compared with those received by legal experts. The medical press has been unanimous in opposing this injustice. What can we think, therefore, of a body of medical men who will deliberately attempt to cut down a fellow practitioner's bill in so summary a manner and on so flimsy an excuse? Are these men so ignorant that they do not know they are establishing a precedent that will bring injury to every medical specialist in the United States? It appears as if they had less regard for their professional future than Judge Dorsey had. He tried to save them from themselves by standing up for Dr. Olmstead.

PUBLISHERS' DEPARTMENT

PLATT'S CHLORIDES

Platt's Chlorides is an odorless and colorless liquid, which has been highly recommended as a disinfectant and deodorant by physicians and nurses.

By frequently sprinkling the floors with Platt's Chlorides, diluted with ten parts water, the rooms occupied by patients suffering from contagious diseases can be kept free from odor and contagious dust.

This preparation is manufactured by Henry B. Platt, Platt Street, New York City, and is only sold in quart bottles.

CHEAP FARMS

The Chicago, Milwaukee & St. Paul Railway can put you in the way of getting fine farm lands in South Dakota for \$10 per acre and upwards, one-third cash, balance on easy terms. Send for descriptive list of lands and for free illustrated pamphlet on South Dakota containing numerous letters from farmers in the finest agricultural and stock-growing Western State.

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Sample and formula mailed on application to Dios Chemical Co., St. Louis.

RESINOL

The following is an extract from a letter received by the Resinol Chemical Co.:

I began with resinol about two years ago, and subjected it to the various tests that its nature might suggest, and have now so perfected or defined its sphere of action that it is becoming more and more invaluable each successive week. I use about ten ounces daily. Its antiphlogistic and antiseptic qualities appeal to me as its leading features, and I have greatly broadened my reputation by its magical action in strangulated hemorrhoids and acute proctitis. In destroying hemorrhoidal tumors as I do, I can reduce the time one-half, being able to double the force of operative means on account of obviating inflammation and pain by using this remedy in conjunction with the destructive measures. If physicians in general practice would employ resinol in the frequent cases that come under their care, as an "attack of piles," the more ancient methods would become devoid of interest.

Very sincerely yours,

EUGENE F. HOYT, M.D.

New York City.

The people of Christian County, Kentucky, are enraged at their county judge for appointing a negro doctor to act as county physician. The negro will have to attend the sick, both men and women, in white families.

NEWS

When the report of the World's Congress at Chicago, in 1893, is published it will contain a collection of histories of the women's medical colleges of America.

Mrs. Dr. Allie M. Day is the first woman doctor to become superintendent of a county asylum and hospital in Indiana. She is the wife of the editor of the *Crown Point Register*, and a graduate of the Indianapolis Medical College.

The doctors of Denver, Col., are endeavoring to put a stop to the habit of selling the furniture and carpets of quarantined houses to second-hand dealers as soon as the quarantine is raised. It is claimed that in this way contagious diseases are spread.

The City Council of Topeka, Kan., says that a bill of \$74.73 for medical supplies for the sick and poor of the capital of Kansas is far too large. The Council objects to the city physician supplying medicine to any of the poor except such as have some contagious disease.

Rush Medical College has reorganized its board of trustees so as to meet the requirements of President Harper, of the University of Chicago, with which institution it is now to be affiliated. As soon as a debt of \$71,000 that stands against the college is cancelled the university will swallow it up.

The Cleveland, Ohio, *Press* says that the Mosgrove medical law is likely to prove a dead letter in that region, because there is no one willing to get together evidence against those practicing illegally. The prosecuting attorney says that the State Board of Medical Examiners should hunt up evidence, as it is their duty.

An attempt on the part of President Canfield, of the Ohio State University, to get Starling College and the Ohio Medical University to consolidate, and then become part of the State University, is likely to fail. The majority of the faculty of the Medical University is opposed to the scheme of consolidation, and say it will never occur.

There is a movement on foot in Philadelphia to have the State of Pennsylvania assume the care of the hospitals, pay the attending physicians so that they will have to devote all their time to that duty, and thus do away with the large amount of bogus charity bestowed by these institutions. It is hoped that by this plan the advertising doctor will be subdued and medical ethics once more come to the front.

Inspector De Barry, according to the *Buffalo Times* declared that Canadian trained nurses must become citizens and live in the United States if they wish to practice their business in this country. They will not be permitted to come across the border under contract. The Buffalo General Hospital cannot use Canadian students as nurses, when they get nothing for their service but their board and clothes.

The ninth International Congress of Hygiene and Demography will meet in Madrid, Spain, from April 10 to 17, 1898, under the patronage of His Majesty King Alfonso XIII and the Queen Regent. The president of the Committee of Arrangements is His Excellency the Minister of the Interior and its Secretary-General is Dr.

Amelio Gimeno, Professor of the Faculty of Medicine of Madrid, Senator, and member of the Royal Academy of Medicine. Surgeon-General Billings, of the U. S. Army, and Dr. Walcott, of Boston, represent the Congress of Hygiene in this country, and Surgeon-General Walker, of Boston, the Congress of Demography. An international exhibition of pharmaceutical and hygienic preparations will be held at the same time and in the same place. The ten sections on hygiene deal respectively with Hygienic Microbiology, Prophylaxis, Climatology and Topography, Urban Hygiene, Alimentation, Infancy and Schools, Exercise and Labor, Army and Navy Hygiene, Veterinary Hygiene and Sanitary Architecture and Engineering. The three sections on Demography treat of the Technics of Demographic Statistics, Statistical Results in Relation to Demography and Dynamical Demography. A large number of medical men from all parts of the civilized world are expected to be in attendance.

Immunization Against Vegetable Alkaloids

At the last Italian Congress for Internal Medicine (report *Therap. Wochens.*, IV, No. 46, p. 1201) Dr. Gioffredi reported on some experiments made with atropine, cocaine, and morphine. No immunity or even increased tolerance could be obtained with atropine or cocaine; in fact, it appeared as if with the progress of the experiments the dogs became more sensitive to those alkaloids. With morphine, on the contrary, a considerable degree of tolerance can be established. Double the lethal dose has been given with impunity, which the author believes is due to the formation of a special antitoxin in the animal's blood.

R.

Childbirth in a Coffin

Dr. Bleich reports the following interesting case (*Vierteljahrsschrift für Gerichtliche Med.*, Vol. XIV, No. 2). The dead body of a young woman was taken out of a pond. It was found that she had been in the sixth month of pregnancy. As it was considered a case of suicide, she was buried without any further investigations. Eight days after, certain facts pointing to foul play, the body was exhumed. Between the thighs of the corpse was found a dark-red tumor, the size of a child's head, which proved to be the inverted uterus. To its lower end was attached the umbilical cord, united to a fetus 15 inches long. Several theories have been advanced in explanation of post-mortem childbirths. Some believe that the child becomes expressed by the pressure of the decomposition-gases; others believe in the possibility of post-mortem uterine contractions. Neither of these theories is considered tenable by the author.

R.

American Medico-Surgical Bulletin

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NEW YORK, FEBRUARY 10, 1898

No. 3

EDITORIAL

UNIFICATION OF STATE MEDICAL EXAMINATIONS AND LICENSES

IT has not been many years since the circumstance that any half-dozen doctors in any State of the Union could get together and by their conjoint influence obtain a charter and a license to teach medicine and to give medical degrees, and to let loose every Spring upon long-suffering communities whomsoever they pleased to label "Doctors," threatened utterly to debauch the regular medical profession. Between hopeless contentions concerning ethical questions relating to the so-called "irregular" practitioners and a continual lowering of the average education of its own ranks, the medical profession seemed to be rapidly passing into a condition in which it would fail utterly to command respect of anyone. Fortunately, however, the earnest appeals of the few finally awakened the conscience of the many; and at last, as the result almost solely of the efforts of the medical profession, it (the profession) has been brought in a greater or less degree under the supervision of Government in most of the States; at least in so far that theoretically the Government has taken upon itself to say that no one shall be licensed to practice medicine unless possessed of a fair technical education.

The effects of the governmental pressure

upon the medical schools has been pronounced. Two years' or rather the eighteen months' courses have been replaced by courses of four years' duration, as well as by steadily increasing narrowing of the entrance door into the medical school and of the exit door thence into the medical profession. It is plain, however, that before long a new era of education will have to be inaugurated, or rather a new direction will have to be given to the efforts of the medical profession in influencing legislation. On account of the lack of unity of action between the different State Medical Associations, and on account of the different physical or popular conditions in the different States, the legislation in the different States has been very diverse.

It is certainly a great hardship that, it may be, a great practitioner residing in the city of Philadelphia should be debarred from attending a patient in the city of Camden, or in New York, without undergoing an examination for which few properly qualified doctors are at middle age fitted. By middle age the medical practitioner of internal medicine has forgotten much of his anatomy, and all of his chemistry and surgery, whilst the throat or the ear or the eye specialist has become very misty in his knowledge of leg or rectal anatomy. It seems to be as essential for the future well-being of the medical profession and of the people of the United States, to whom it

administers, that the man who is a legal practitioner of medicine in one State shall as it were, *ex officio*, be a legal practitioner in other States.

There seem to us only two possible ways by which the proper unification of State legislation can be reached. The American Medical Association might attempt, through a committee, to collate the various State laws regulating the entrance to the practice of medicine, with the hope of evolving one law which should be urged upon the different States as a substitute for the various laws now in force; but the American Medical Association represents only a portion of the medical practitioners of America. It is very doubtful whether a law which it would finally propose would be a wise one, and it is almost certain that the association would fail in getting the desired legislative action. The second plan would be for the Medical Examining Boards to hold a convention and slowly and carefully, after thorough and prolonged discussion, to come, if possible, to some agreement or common basis of action, by means of which the legalized practitioner in one State could practice in another. If it were practical, in our opinion, the best result could be obtained by having a uniform law in all the States; if this were not practical, the law could readily be made to recognize in one State the practitioner from another State. It is probable, however, that this could not be done at once, for all the States. There are, indeed, in some States no Medical Examining Boards at all. If, however, the medical examiners of various co-lying States should agree that their laws were sufficiently alike to warrant a legal inter-recognition of them and should secure the necessary legislation, a group of co-acting States would be formed which would practically lessen the difficulties of the present situation, and would further become a

focus to which would probably gravitate, one after another, the outlying States.

It is possible that the proper solution of the whole medical question would be for Congress to establish a National Board of Medical Examiners, with sub-divisions in the various States, but whether Congress has or has not the power is at present an unknown—and probably until the last judicial decision should be reached, an unknowable—quantity; and therefore it seems to us that any attempt at central Federal legislation would at the present time be futile.

THE FRUITS OF SEWAGE-POLLUTION

IT has been said that every time a patient dies with typhoid fever some one should be hung for murder. That typhoid is a preventable disease is now pretty generally admitted by the medical men of the world. That its prevention can be accomplished by a proper degree of cleanliness on the part of the community in seeing that the water used for drinking and culinary purposes is not polluted by the dejecta of typhoid-fever patients is also conceded. The thought that the criminal carelessness of those in authority permits the emptying of sewers into streams used as supplies for drinking-water is a horrid one. When such carelessness ends in the death of a multitude of innocent victims and the clamor of the community arises against those who are to blame, then, and not till then, do common-sense methods come into control and this evil is corrected.

Only during or immediately after epidemics of dangerous diseases are our legislators willing to spend money on sanitary improvements. While their terror lasts they are liberal, but when it is gone they lapse back into their original indifference again. If the terror is great, they become unreasonably lavish of the people's money

and practically throw it away on useless experiments. When all seems quiet and serene again, they lapse back into the same condition of heedless imbecility. England has had a severe lesson with typhoid fever of late and the end has not yet been reached. The same lesson seems about to be given to Americans. The city of Philadelphia is the starting-point of the scourge of fate.

Not long ago we had occasion to refer to the condition of the water-supply of that city, and we then made the statement that it and other cases cited left us nothing to boast of over our English cousins in their sad experience at Maidstone. While it was apparent at that time that a sword of Damocles was then hanging over that city, there were no distinct indications that it would fall so soon. Now the pestilence is, by the daily papers, stated to be under way. The cases reported have run up from a small number at the close of the old year to as high as 212 per week, and as many new cases as thirty-nine have been reported in a single day. Complaint is rife against the health-officers for their inaction under these trying circumstances. On January 21 the *Philadelphia Item* said: "The Queen Lane reservoir is blamed as a breeder of the disease, and what has been done to repress its ravages? Water is still pumped into the reservoir; it is still being drawn from it. Has the reservoir been emptied and the interior examined? No! Has it been flushed, so as to get rid of the foul matter and bacteria supposed to have been drawn into it by the overflowing of the intercepting sewer? No!" In the meantime the Philadelphia Medical Society has passed a set of resolutions asserting that the best interests of the city and State will be conserved by the appointment of an educated physician as Health Officer and asking that a committee be appointed to wait upon the Mayor and Councils to urge upon

them the necessity of immediate steps for the filtration of the water-supply of the city, as they blame it for the epidemic. The Department of Public Works, believing that its members know more of the cause of typhoid fever than the members of the Medical Society, declares that the many changes of the weather are the true cause of the spread of the disease, and not the water. It is admitted that the Manayunk sewer was flushed while water was being pumped into the Queen Lane reservoir, but the Director says that as soon as the accident was discovered the pumping was stopped. It is very singular that the time between the accident and the rise of the epidemic was just long enough for the incubation of the disease, and still more singular that the parts of the city supplied by that reservoir are the parts where the disease is by far the most prevalent. It is also one of the highest, cleanest and otherwise most healthy parts of the city.

Some of the sufferers have already threatened to sue the city for damages. If they all did so and were at all certain of getting their just dues, it would be a healthy stimulus to other communities too stingy to spend money in looking after the suppression of such dangers. It is a terrible crime for a city to put in charge of the health and lives of its people men who are ignorant of the laws of health. Politics are responsible for this reprehensible state of affairs. The bosses want men at the heads of Health Boards who are political workers, and not scientific men. They know nothing of sanitary science and care less. A doctor, if placed in such a position, is less likely to be a pliant tool, and besides he would be too importunate in demanding large appropriations for uses that could not be understood fully by his superiors in office.

This Philadelphia epidemic should be

a warning to other cities throughout the United States where a similar danger threatens of sewer-pollution. The virulent germs will no doubt be carried from there to every city in the nation. Water and milk stand ready to disseminate them from a multitude of centers whither the Philadelphia victims may go. Strangers travelling through the city, taking the water of the polluted reservoir, will carry the disease away with them in an imperfectly developed form, to complete the incubation and prostrate them as soon as they reach home. The sewers of their region will bear the germs to unprotected and non-immune communities below upon the same stream. As the Maidstone epidemic spread in Great Britain, so this one may spread here. A fortunate concurrence of circumstances may save us, and it is to be hoped that it will, but the lesson from the danger should not be overlooked. Every community should at once look to its water-supply and provide some means of sterilizing it where there is the remotest possibility of pollution. A careful watch should be put on all oyster-beds to see that none of them is near the mouth of sewers. Milk should be sterilized before use. As a culture-medium for germs it is excellent, and can be contaminated from the watering of the milk and perhaps from the animal itself, if it has drunk polluted water.

Philadelphia should have the Queen Lane Reservoir emptied and thoroughly cleaned. All the water supplied to it, indeed to any city where sewage-contamination is at all possible, should be filtered through beds of sand. Until these precautions are taken the citizens should all either boil the water they are using or have it filtered through a Pasteur or other porous stone filter that is sure to arrest every germ. Under such conditions eternal vigilance is the price of life.

AMONG THE EDITORS

THE DOCTORS DIFFERED

Now, traces of this same head-line have been found in the earliest times; ancient Hebrew and Egyptian histories are replete with it. There is scarcely an instance mentioned in which a cure was effected that some disagreement of doctors was not recorded. In fact, the chronicler seems to have taken a particular delight in noting this fact, so circumstantial evidence would point him out as the direct ancestor of our friend, the modern journalist. Then the immortal Shakespeare passes it along, for "Who shall decide when doctors disagree?"

But we shall go no deeper into the genealogy of this offender; we have shown it to be most ancient. We do not wish to be iconoclastic, but isn't it time to crush this objectionable idol? Why should not doctors disagree if they care to? Surely this same right is conceded to other mortals and no comment made. Did any one ever hear of lawyers who agreed, of chemists whose views were identical, of members of any art or profession who held exactly the same opinions?

The mere fact that attention is called to the disagreement of doctors shows it must be exceptional with them, for it is the exception, not the rule, that is recorded. A railroad accident is a fit subject for newspaper extras, yet no mention is ever made of the thousands of people daily transported without a mishap.—*New York Polyclinic.*

MEDICAL JOURNALS AS AIDS TO PHYSICIANS

That the general practitioner is materially influenced by his environment, no argument is needed to establish. If the fellow practitioners with whom he comes in contact are scientific in their methods and habits of thought he will be spurred on to all that is truest and best in his profession. Then, on the other hand, if they are sluggish and deficient in observation, the man is necessarily influenced by such association.

But is it not possible for a physician in this day to throw around himself a very helpful environment by means of the pro-

gressive medical journals of the profession? In years past the medical journals have contained largely material which was merely the arbitrary theories of the men who promulgated their particular dogmas. The best medical journals of this day (and there are many which fall under this head) work for what is best in the realm of medicine, viz., the scientifically demonstrated truths. There is less of theory based upon reasoning, but more of theory based upon scientific experimentation.

The general practitioner, who has little time to spend in reading, will find difficulty in interesting himself in these truths, learned by experimentation, perhaps for the reason that he is unfamiliar with the methods employed. The question may, however, be discussed with those among his co-laborers who have had the opportunity to employ scientific methods. This will naturally add greatly to his interest.

The tendency shown by the best journals to make excerpts from foreign and native scientific observations in medicine shows that the profession is demanding literature of the class indicated.

If the general practitioner will read two or three good medical journals he will not only be able to keep abreast of the times, but receive and impart to others a new impetus in the science of medicine.—*Columbus Med. Jour.*

HOW THE PHYSICIAN CAN SAVE TIME

Convenience means the performance of many things; inconvenience, the neglect of necessary tasks. The average man will examine urine if his utensils are in or next to his office, and if he has a sink into which to throw waste. If he must go up or down stairs for his examinations, or to empty bottles, or if he must push aside writing materials to make room for his test-tubes, he will avoid analysis of urine as much as possible, and will fail in diagnosis in occasional cases. In writing, too, a typewriter will be found easier than a pen or pencil. Hour for hour, more can be written, and with less fatigue, in spite of the greater amount accomplished. A roomy and well-arranged desk is a great time-saver. Have a drawer for each line of work that you happen to

be engaged in—one for business, one for science, one for correspondence; set aside a space for every important undertaking that will occupy spare moments for more than a few days; in short, have your notes or letters, or whatever your material may be, so that you can lay them aside at a moment's notice.

Personal comfort is another great factor in increasing one's capacity for work; perhaps it should even be placed before convenient arrangement of materials. Spare your eyes; use a good lamp instead of gas, and make sure of plenty of daylight, not too glaring. Place your furniture so that the light will not be in front of you. All things considered, your private office ought to be the best room in the house, for its purpose. If only one room in your house fulfills these demands, take it for the office. Have an easy chair well cushioned, and preferably one that you can adapt to the height of your desk. In general, make your office as pleasant, convenient, and comfortable as possible. Use your brain to the best advantage, and not too long on any one task.—*Richmond Jour. of Prac.*

THE DOCTOR'S POCKET

One of the prime secrets of success in general medical practice is to be prepared for emergencies. It is not convenient always to carry a satchel, but a little ingenuity will render every physician, as ordinarily dressed, ready for at least the preliminary care of almost any kind of a case. Diagnosis is of prime importance, and the thermometer and stethoscope should always be at hand. The former instrument is carried in the vest-pocket by most medical men; the latter usually is thought too bulky for convenient transportation. One of the hip-pockets serves well for the carrying of the stethoscope.

The hypodermatic syringe should be of durable construction, should be kept in working order, and should be accompanied by not too elaborate medicaments. It is easier to throw out part of a solution, or to combine two tablets, than it is to carry several-sized tablets of the same drug, or a variety of readily made combinations. Atropine, morphine, strychnine, nitroglycerine,

cocaine, apomorphine, perhaps also hyoscine, are all the drugs needed for emergent injection.

A case for prescription-blanks and cards is a business if not a professional necessity. A case not much larger may be made to serve for many conditions, by introducing one or two powders each of several valuable drugs not likely to be needed after the first dose, and by having a few small vials of such favorites as acetanilid, corrosive sublimate, aconite, alcohol, salol, and a good cathartic, relying on hypodermatic tablets for morphin, etc.

A small surgical case, with rubber catheter, silk, catgut and a needle or two, with antiseptic powders in the pocket, will be of great service in many accidents and requires but a small additional weight.

Suspenders make an excellent tourniquet.

It is impossible to carry sufficient ether for use as an anesthetic, but a small vial of chloroform may be carried in the medicine case which will suffice for a brief operation or to maintain anesthesia while more is sent for.—*Med. and Surg. Reporter*.

CALLING ON NEWCOMERS

In a letter to the editor of *The Jour. of the Amer. Med. Ass.*, a physician asks an opinion regarding the ethics of calling. "Who is expected to first extend courtesies in the way of friendly calls, the newcomer or his older-established professional brethren?"

And the editor says:

"When a physician moves into a neighborhood, courtesy demands that his brother practitioners should call on him within a reasonable time and give him the right hand of fellowship."

We take exception to this opinion as will, we believe, most physicians, and we should like to know how many right hands of fellowship the distinguished editor of the *Journal* has extended during the last few years.

With the influx of new men, to follow his advice would take all of one's time, even were it worthy of being followed.

The new man is the one who has everything to gain by an acquaintance with his

professional brethren—the older men nothing, and it is not right to expect them to extend the first courtesy to every newcomer.

In exceptional cases, when a man of established reputation moves into a new place or where by any reason of former acquaintance there is a closer tie than that of the medical fraternity, the older man would naturally take the initiative, but in general it is the new man who should call and introduce himself to his confrères.

We do not believe that any other method is customary elsewhere than in very small villages, the opinion of the editor to the contrary.—*Atlantic Med. Weekly*.

THE ANESTHETIST

For some weeks the table of contents of the *Brit. Med. Jour.* has contained such announcements as this: "Death Under Chloroform," or "Death Under Anesthesia." For some un-understandable reason chloroform still appears to be the anesthetic most frequently chosen in the British Isles, notwithstanding the fact that statistics bear out the fact that it is followed by a greater mortality than ether. We believe that in London there is an association known as the "Society of Anesthetists," whose members confine their work to the administration of chloroform or ether, and if any of the deaths recently reported have occurred in their hands, we have failed to grasp the fact from a perusal of the cases.

Misfortune is apt to occur to the most experienced, and this should be an additional reason for securing the services of the best. Many of the London hospitals have the services of an experienced anesthetist for the major operations, and the danger from ether or chloroform would appear to be greatly lessened, as we have not noticed any fatalities in such.

The recent fatalities appear to have occurred during or after administration by juniors, one in a child fifteen months old, suffering from congenital hydrocele, in which case it was thought advisable to perform circumcision. The child was examined prior to operation and nothing wrong discovered in heart or lungs. When not more than 30 or 40 minims of chloroform

had been inhaled, given drop by drop on folded lint, respiration and pulsation ceased, and in spite of everything the child died. Post-mortem examination failed to reveal any disease.

We do not attach any blame to anyone, but we cannot help thinking that as the largest number of fatalities are during or after trivial operations, the presence of the expert anesthetist is just as, if not more, necessary for the minor than the major operations.

Surgeons would do well to insist on the administration of the anesthetic by the skilled expert, no matter how trivial the case, and could do much towards enlightening the people on this point.

It is a popular notion that any one is good enough to give the anesthetic, whereas in reality, in some cases, it requires more nerve and entails more responsibility than that incurred by the operator.—*South. Cal. Pract.*

DOES DECAPITATION CAUSE IMMEDIATE UNCONSCIOUSNESS?

The executions in Paris during the recent years have revived the old question whether death instantaneously follows upon the severance of the head from the body. Dr. Cinel asserts that decapitation does not immediately affect the brain. He says that the blood which flows after decapitation, comes from the large vessels of the neck, and there is hardly any call upon the circulation of the cranium. The brain remains intact, nourishing itself with the blood retained by the pressure of the air. When the blood remaining in the head at the moment of separation is exhausted, there commences a state, not of death, but of inertia, which lasts up to the moment when the organ, no longer fed, ceases to exist. Dr. Cinel estimates that the brain finds nourishment in the residuary blood for about an hour after decapitation. The period of inertia would last for about two hours, he thinks, and absolute death would not ensue till after the space of three hours altogether. If, he adds, a bodiless head indicates by no movement the horror of its situation, it is because it is physically impossible that it should do so, all the nerves which serve for the transmission of orders from the brain to

the trunk being severed. But there remain the nerves of hearing, of smell and sight, and he concludes that the guillotine does not cause instant death. If this be true could any other form of execution be more unmerciful?—*Mass. Med. Jour.*

ANTITOXIN MANUFACTURE BY BOARDS OF HEALTH

The plain duty of the New York City Board of Health in this matter is to stand as a bulwark between the serum manufacturers and the serum consumers, to test the merits of all anti-toxin imported into the city before it is exposed for sale, and to reject such products as are not up to the standard. If this is done in a scientific manner, the Board will have its hands full, and will find no time, as it has no right, to engage in the manufacture of antitoxin. We have only words of condemnation for the evident spirit of commercialism which seems to pervade even the New York City Board of Health, and we believe that the fostering of such a spirit will inevitably lead to disaster and disgrace. Let the manufacture of that most valuable agent, the antitoxin of diphtheria, be conducted by responsible commercial houses under the careful supervision of experienced bacteriologists and by trained assistants, and let it be the function of Boards of Health to examine and pass upon the reliability of such antitoxin. In this way the public will be protected and the Boards of Health will retain their dignity and fulfill their duty.—*New England Med. Monthly.*

RADICAL AND UNWARRANTED EXPRESSIONS

Either ignorance, thoughtlessness, egotism, or viciousness is responsible for many rash, radical, and unwarranted expressions on the part of some members of the profession—expressions which are frequently productive of harm to individuals, if not to the profession in general, as, for instance, "the accoucheur who has a case of puerperal septicemia to develop in his patient is guilty of malpractice, and is morally, and should be legally, responsible." This, if not in the exact language, has in sentiment been uttered by physicians whose standing in the profession makes their opinions seem

authoritative. We would not for a moment attempt an excuse for the ignorant or careless obstetrician. The man or woman who takes upon him or herself the sacred responsibilities of an accouchement without proper knowledge, or without taking the most painstaking care possible to fortify the patient against all dangers, is unworthy a position in our noble profession, and should be held morally and legally responsible for the results of their work. That, with the present status and medical skill and knowledge, "puerperal sepsis" can always be avoided, no one can claim. Facts will not justify such a declaration. The results of aseptic and antiseptic treatment compel us to admit that the cases resulting from auto-infection are comparatively rare. Nevertheless, we believe they do occur. Even, however, if all cases were heterogenic, it would be unjust to hold the practitioner criminally liable. The highest skill will not and cannot always control the conditions of contact and environment. Consequently the most reputable and conscientious practitioners are occasionally compelled to witness a patient succumb to this virulent condition. If ever any fact in medical practice was thoroughly demonstrated, however, it has been proven beyond reasonable doubt that aseptic midwifery does not only reduce the rate of mortality from, but as a rule prevents the condition of puerperal sepsis. It seems, therefore, scarcely possible that we have to-day in the ranks of our profession men who ignore the teachings of modern obstetricians.—*Charlotte Med. Jour.*

ADVERTISING

Everyone at all conversant with modern methods of self-advertisement is aware of the artifices resorted to to obtain and maintain a position in the book-review column of the *Times*. The commonest trick is to print editions of, say, fifty copies of a medical book. In this wise the systematic distribution of gratuitous copies soon exhausts the stock, and the second edition appears for another period of three months. We know of one work, of no great value and small, if any, sale, which arrived at its twentieth edition ere the first thousand had been printed.—*Medical Press.*

CURRENT TOPICS

TESTS FOR DIPHTHERIA ANTITOXIN

There seems to be great need of a satisfactory test for antitoxic serum. The *Bulletin of the Pasteur Institute*, in its December number, points out in a very satisfactory manner how serious the matter is at present, and shows why it is so. If fifty men should attempt to measure the length of a room, and every one of them had yard-sticks of different lengths with which to do it, one would not expect to hear them give concordant results. If some of these yard-sticks were less than a foot in length, and others as much as two ordinary yards, the disagreement would be a very marked one. Yet this is about what is being done in the published reports of the number of units strength of diphtheria antitoxin. The article says that the tests employed for the estimation of the potency of antitoxic serum are only of value when the toxin employed for the investigation is the same that was employed for the inoculation of animals destined to furnish the antitoxic serum.

The worthlessness of the results arrived at has been characterized by Dr. C. T. McClintock (*Med. News*, Oct. 30, 1897):

"It has been recognized for some time by every competent observer that our tests are very unsatisfactory and unreliable. One bacteriologist would report that a given serum contained only a half or a third the number of units which another had found. Several months ago I had a bottle of serum divided into four equal parts. One of them was sent to a bacteriologist at Ann Arbor, another to Detroit, another to Philadelphia, and the fourth to New York, with requests for an accurate test of the number of antitoxic units in each cubic centimeter. Every one of the bacteriologists to whom this serum was sent has had large experience in testing antitoxin. The reports made as follows: (a) 150 units per c.c.; (b) 175 units per c.c.; (c) 100 units per c.c.; (d) 250 units per c.c." Dr. McClintock goes on to say that "there is nothing strange in such variations, if we remember that the foundation of the test is the strength of the toxin, or in other words, the lethal dose of a poison."

It has also been found that serums of a high potency very rapidly lose their antitoxic power, and at the Behring Laboratory they have ceased to place on the market any that contains more than 250 units per cubic centimeter.

Another factor of importance, which is a source of fallacy in the application of any

test upon animals, consists in the fact that there are animals which, like men, show idiosyncrasies in regard to poisons of any nature, and that an animal is frequently found which will show an astonishing power of resistance, or an extreme sensitiveness. If such an animal is employed for a test it will of necessity produce an erroneous conclusion. These idiosyncrasies make it absolutely impossible, with living animal reagents, to arrive at mathematical conclusions.

Again, a third factor of interest is that, according to Madsen, of Norway (*Uni. Med. Jour.*, April, 1897), and others, "it is not easy to secure a constant production of the diphtheria toxin; although he used a very virulent species, the cultures in bouillon gave very different results, the variations occurring without any known reason." He also found that when toxins from different laboratories are employed to test the serum, the result is different, even when the lethal minimum dose of the toxins is accurately determined. A serum, which is calculated in one laboratory to be of 100 units, may in another laboratory, where the toxin is different, only reach the force of 30 units.

It has lately been stated that in New York the State health authorities would soon begin to test all the makes of antitoxin found in the market, at regular intervals. We welcome the idea, which is a praiseworthy one, providing the tests are so conducted as to eliminate all possible source of error. The only way in which this can be accomplished, it would seem, is the following: The State health board should furnish its own toxin to the makers, and thus enable them to test their product with it before sending it upon the market. And here we may add that each test should be conducted upon more than one animal, to save against error by idiosyncrasy.

IMMUNITY—RECENT THEORIES VIEWED FROM THE CLINICAL STANDPOINT

The two dominant views at the present day as to the nature and cause of immunity are: (1) The influence of the phagocytes, either as devourers of germs or producers of substances which destroy germs or their products. (2) The influence of antitoxins, either as chemical antagonists, acting by neutralization of toxins or as physiological antagonists, acting by stimulating the cells of the body to increased resistance. After analyzing the different theories, Dr. W. Gilman Thompson (*Med. Record*, Jan. 8, 1898) reaches the following conclusions:

1. The phagocytic action of the leucocytes in combating infection is of but little importance, and is mainly concerned in the

removal of waste products rather than the devouring of living bacteria.

2. The leucocytes probably secrete substances which are both inimical to living bacteria and antagonistic to their toxins. The antagonism may be through digestion of the toxins and through counteracting the irritant effect of the toxins upon the general tissues and cells of the body.

3. The antitoxins of the serum, whether artificially injected or developed within the body, do not act by chemical neutralization of the toxins, but through stimulation to greater resistance of either the leucocytes or the tissues, or both.

4. The blood itself, neither through its leucocytes, nor through its serum, is capable of producing all the phenomena of permanent immunity. To a limited extent only can it be relied upon for the prohibition of toxic symptoms.

5. It remains for the tissues to offer the final combat against the toxins, and to develop a more or less permanent resistance to them, which is transmitted to successive cell generations as more or less permanent immunity. To this effort they may be incited by either toxins or antitoxins in addition to the exercise of the inherent property of living protoplasm to resent irritation of any sort.

6. It is probable that natural immunity does not differ in kind from acquired immunity, which has been perpetuated for an unusually long period through succeeding generations.

R.

HORNET'S STING AN ANTIDOTE FOR SNAKE-BITE

M. Phisalix, the French authority on the venoms of insects and reptiles, has established beyond a doubt that the poison of the hornet, in sufficient quantity, renders one immune to that of the viper. (*Revue Scientifique*, Dec. 18; *Literary Digest*, Jan. 8, 1898, p. 46.)

According to Paul Bert and to M. Cloez, the poison of the carpenter-bee owes its activity to the presence of an organic base in union with an unknown fixed acid. According to M. Lanjer, in the venom of the bee there is found a small quantity of formic acid, but the toxic substance is an alkaloid that resists heat and cold as well as the action of acids.

But although there is thus disagreement on the subject of the chemical composition of this poison, it is not so with its physiological action. P. Bert, having caused the carpenter-bee to sting sparrows, saw them die from stoppage of respiration, in complete paralysis; and recently M. Lanjer has killed rabbits and dogs by inoculating them with bee-poison, their symptoms being

similar to those of poisoning by the bite of the viper.

M. Phisalix has investigated the relation of the poison of the hornet to that of the viper.

The poison extracted from the stings of fifteen hornets, injected into the leg of a guinea-pig, caused a lowering of temperature by 4° , which lasted thirty-six hours. At the point of inoculation were produced redness and swelling, which finally reached the abdomen and ended in mortification of the skin. In a similar experiment, where the same dose of poison was heated to 80° for twenty minutes, there was no general injury, and the local action was confined to a slight temporary swelling. Likewise, the inoculation of a glycerinated maceration of hornets caused only slight local troubles. But the organisms of the animals that received this poison underwent such modifications that they became able to resist a subsequent inoculation with viper's poison.

This resistance is such that a guinea-pig thus immunized can support, without the least danger, a dose of viper's poison capable of killing him ordinarily in four or five hours. The duration of this immunity varies from five to eleven days. Thus the poison of the hornet possesses a slight antitoxic action against that of the viper; while, when inoculated at the same time as the latter it retards death considerably.

M. Phisalix, who has investigated the nature of the substance which in the complex mixture that he employs effects the immunization against the viper's venom, finds that this substance is not destroyed by heating to 120°C , that it is in part retained by a filter, that it is soluble in alcohol, and that it is neither an albuminoid substance nor an alkaloid. P.

PRESENT STATUS OF INFANT-FEEDING

According to Dr. Holt, *Arch. of Ped.* (Vol. XIV, No. 11, 1897), all authorities agree upon the following points:

1. Good breast-milk is the best infant food.

2. No substitute for breast-milk can be trusted which does not furnish essentially the same elements, fat, sugar, proteids, etc.

3. These elements are found only in the milk of other animals, cow's milk being the only one available for general use.

4. Cow's milk requires some modification before it is fed to infants. First, because the proportion of the different elements (fat, sugar, etc.) are not the same as in breast-milk; and second, because some of these elements, notably the proteids, are not identical with those of breast-milk. S.

ORIGINAL PAPER

NOTES ON A CASE OF ANOMALOUS TYPHOID FEVER—ABSTRACT OF A CLINICAL LECTURE

By HORATIO C. WOOD, M.D.

MR. —, whose temperature-sheet is upon the board before you, is a man 28 years old, of fair health, who, in the early part of November, 1897, attended a horse-race on a Saturday afternoon, and afterwards drove through the night five or six hours, reaching home very much chilled. Shortly after going to bed he was taken with a violent rigor, for which his family physician was summoned, who found him with a temperature of 102 or thereabouts, great pain in the head, and marked stiffness and pain in the neck. These symptoms continued for one week, when I was called in consultation. The headache was persistent and so extreme as to be almost the sole cause of complaint. During the week the temperature was said to have been irregular, without daily rhythm, running up to $101\frac{1}{2}$ or 102 , and down as low as $99\frac{1}{2}$. There was distinct constipation; the abdomen was perhaps slightly fuller than normal. The tongue was coated, and the stiffness in the neck and shoulder still apparent.

The original diagnosis of the family physician had been a probable attack of grip; then the case was thought to be probably rheumatic. Acquiescing in this view, I urged the immediate increase of the salicylates to 80 grains a day, but in two days no relief was obtained. On the tenth or eleventh day of the disease distinct rigors appeared with a regularity that suggested the possibility of malarial disease. A blood-specimen had been sent on the seventh day to the city laboratory, and the report returned that there was no Widal's typhoid reaction. A careful microscopic study of the blood, both between the paroxysms and during the chills, failed to detect the presence of malarial organisms, and 30 grains of quinine a day exerted no influence upon the returning chills, which by the twelfth or thirteenth day had become very severe. In the beginning of a rigor the nails of the patient turned blue, and in a

little while the whole body was cyanosed, the bed was violently shaken, and the temperature in the course of from half an hour to an hour would rise rapidly, in some of the paroxysms nearly four degrees; the maximum on the fourteenth day being 105 1-5. The headache was still excessive; there was stiffness of the neck; the pulse ranged from 10 to 110; large doses of laxatives were required to open the bowels at all; and no evidences of local disease could be found.

The morning of the twelfth day I thought the symptoms warranted sending to the Board of Health the probable diagnosis of sporadic cerebro-spinal meningitis, but in the afternoon of the same day we took back our statement. During the thirteenth and fourteenth days the patient had three or four chills a day, some of them of great violence, but without any sweating. The pulse failed gradually in force, increasing somewhat in frequency, and the general asthenia became marked; but no other symptoms developed except that percussion-dulness appeared at the base of the right lung.

On the fifteenth day Professor DaCosta was called in consultation. He confirmed the dulness at the base of the right lung, and there were also at this time a few moist râles. The only diagnosis he could reach was that it was an infectious fever whose nature could not be established. The next day moist râles were at the base of both lungs, with dulness of percussion; but fullness and no bronchial breathing. Professor DaCosta now suggested that the case was one of centric pneumonia, working up toward the surface of the lungs and giving rise to no distinct physical signs. This opinion, however, did not appear to me tenable, because of the length of time during which the symptoms had lasted. In fifteen days a pneumonia, if existent, should certainly have revealed itself.

I have only seen three conditions of disease causing a temperature-sheet like that of Mr. —, namely, diseases of the liver—especially involving the gall-bladder; malaria; and septic poison from abscess. The case had been proven not to be one of malaria. The absence of local or other hepatic symptoms seemed to put aside the supposition of disease of the liver; and I

therefore reached the conclusion that there must be some internal abscess, and that probably it was supra-hepatic, at the base of the right lung, but a thorough exploration with aspirating needles failed to detect pus either in this situation or in the corresponding position in the right lung. On the seventeenth day the symptoms continued as violent as they had been, and similar in character; and blood sent on the sixteenth or seventeenth day to the City Laboratory failed to give the typhoid reaction. On the seventeenth or eighteenth day, however, there was a discharge of several quarts of mixed blood and pus from the bowels, so that the opinion of an internal abscess was justified.

Although after the discharge of the pus there was some abatement in the severity of the chills, the asthenia and general constitutional disturbance did not materially alter for the better, and as no evidence could be found of reaccumulation of pus it was the opinion of all the consultants that there must be present some other disease than simple septicemia from abscess. A remarkable symptom was the continuation of severe intestinal hemorrhage, which finally led to the growing belief in those who were present that the case was one of typhoid fever. The course, however, had not been that of typhoid; the characteristic temperature had been entirely wanting; there had been constipation throughout; there had been no dulness, but rather a remarkable acuteness of the intellect. No spots had been discovered, and I was for a long time opposed to the diagnosis of typhoid fever, especially through my reliance on Widal's test. On the twenty-seventh day of the disease, for the first time the typhoid reaction was obtained, and the diagnosis finally reached that the case had been and was one of typhoid fever, complicated by an early abscess with secondary severe sepsis.

Abscesses of the mesenteric glands, as well as various other portions of the body, have been frequently reported as occurring late in cases of typhoid fever, and there can be no doubt that under some circumstances the typhoid bacillus is capable of becoming a pyogenic organism; but I have never met with a case in my reading, so far as recol-

lection goes, of an abscess occurring so early in typhoid fever.

The case is also remarkable in the failure of Widal's test until the twenty-seventh day. It is claimed that statistics show that this test is responded to in over 90 per cent. of the cases of typhoid fever. In 1826 cases of typhoid fever, according to Dr. A. C. Cabot, of Boston, the test confirmed the diagnosis in 95.2 per cent. Unfortunately for my peace of mind, whenever I have desired very eagerly for light upon a case, such case has always been of the remainder of 5 or 10 per cent. Professor Abbott, of the University of Pennsylvania, believes that the failure of the test especially occurs in very bad cases of typhoid fever, and is a grave element in making the prognosis; the failure of the test and the severity and danger of the case alike depend upon failure of the system to develop the immunizing substances in the blood. Unfortunately for this theory, in another case in which I was consultant, trust in the Widal's reaction on the part of the physician probably cost the patient his life. The symptoms were extremely mild, the case evidently belonging to the so-called "walking" form of typhoid fever. The doctor, in spite of the extreme mildness and insignificance of the symptoms, had put the patient to bed, fearing it might be a case of typhoid fever. After the failure of Widal's test, near the end of the third week the diagnosis was revised, and the man allowed to get up and walk about, a procedure which was at once followed by a severe increase of the symptoms, with after a time intestinal hemorrhage and death.

Of all the symptoms of typhoid fever, the one which is most characteristic when it occurs seems to me to be the intestinal hemorrhage; of course, supposing the hemorrhage occurs in a patient acutely ill with febrile symptoms, and is not to be accounted for by apparent local disease.

The only safe course is to consider any case in which there is a continuing fever with asthenia one of typhoid, unless the symptoms conform to some well-known exanthematous type, or some local or general constitutional disease can be discovered.

SELECTED PAPERS

THE PHYSIOLOGICAL RÔLE OF THE LEUCOCYTES IN CONNECTION WITH THE WOUNDS OF THE CORNEA *

By M. L. RANVIER

WE designate under the name of white corpuscles of the blood lymphatic cells, leucocytes, certain cellular elements which are found in the blood or in the lymph, and which can pass out of these fluids and wander at will through the tissues. These elements belong essentially to the vascular system, and as such should co-operate in the nutrition of the organs. This proposition, though so simple and natural, has not attracted attention. This proceeds without doubt from the observation that has been made of one of the most surprising properties of the leucocytes: when put in contact with solid particles they take them into their interior; they devour them. After observing the fact, physiologists have allowed themselves to believe that these corpuscles do hardly anything else but that. M. Metchnikoff astonished no one when he maintained that lymphatic cells devoured the microbes and rendered them inoffensive. He called these cells by a new name, viz.: phagocytes. Phagocytosis, the property which these cells have of absorbing and of assimilating solid particles, has been known a long time. This name is good, but that of phagocyte is bad, because it leads one to believe that it is applied to cells of a new kind, whereas it really concerns vascular elements that have been perfectly understood under other names. This confusion is the more to be regretted since all cells can devour solid particles under certain conditions, a fact that has already been established. Phagocytosis cannot be attributed to the lymphatic cells alone. It is not a property which is peculiar to them. They have other functions and much more important ones physiologically. Following these cells in their migration, he has seen them become fixed, grow, ac-

* Translated and condensed from *La Tribune méd.* (2nd series, No. 13, 1897), for the AMERICAN MEDICO-SURGICAL BULLETIN.

quire a new form, become clasmotocytes; in short, he finally thought they ought to play some important part in nutrition. He still has that belief and now produces some facts which seem to confirm it. Among these facts he first mentions one that is known to every one. Whenever an irritation occurs at any portion of the body, whatever may be its cause, there is at this point an accumulation of lymphocytes. Purely physiological acts, such as the secretions of the glands, cannot be produced with a certain intensity without there being a gathering of these cells. Some of them are in the saliva contained in the mouth. A large quantity of them can be observed in the fluid produced by a salivary gland that has been artificially excited. The following facts have been gathered in experimenting upon the cornea of the rabbit:

The author has already demonstrated that the wound resulting from a superficial cut of the cornea is filled up, at the end of twenty-four hours, with an epithelial mass proceeding from the sliding of the cells of the general covering of the membrane. The cells which replenish the loss of substance are polyhedric and very irregular. Their form seems to depend mainly upon the pressure which they exert upon each other. This pressure is without doubt considerable, for if the edges of the wound present fretted places, which happens if the instrument used does not cut very well, each of the eroded places is filled with epithelial cells. In a case where some corneal layers are partially detached it may even happen that epithelial shoots similar to those of cancer are produced.

In observing a cornea that has been cut, and in which the wound is being filled with epithelial cells, there are three facts among those noticed that are worthy of attention.

1. The epithelium which occupies the surface of the wound presents the appearance of a very active cellular multiplication. Indeed, a certain number of nuclei are observed, which show the different forms of multiplication by indirect division.

2. Large numbers of the epithelial cells have penetrated into the gaps or abrasions of the surface, resulting from the tearing

up of the superficial corneal layers. These cells form shoots variously entangled, due to their being massed together, which recall what is observed in cancers.

3. The central portion of the wound, that which is not yet covered with epithelium, presents a considerable number of lymphatic cells. One would believe he saw at this level a small purulent nodule in the stroma of the cornea.

The lymphatic cells are much less numerous in the regions that have been covered again with epithelium, though this epithelium has been replaced within so short a time. It seems as if these cells have been driven back little by little and constrained to accumulate in the denuded region. The true explanation of these facts is, however, that the lymphatic cells are attracted by the air. One would say that the air has a positive chemotactic action upon the lymphocytes. In fact, if the leucocytes become concentrated in the denuded portions of the cornea it is because these portions, being no longer protected by the epithelial covering, find themselves in direct contact with the atmospheric air.

If we now examine the lymphatic cells, accumulated in the little region of the stroma of the cornea that is deprived of its epithelium, we observe that most of these cells are clear, rounded, limited by a double contour, and contain several small nuclei. These are pus-corpuscles. Formerly these corpuscles were considered as dead lymphatic cells, or cells that were in process of destruction. Since then, investigators have wished to make a special form of leucocyte, of the polynuclear variety. R. does not believe in this classification, as he has seen the mononuclear leucocyte become transformed under his eyes into the polynuclear variety.

Without having altered former views, R. believes he can add that these modified cells have given up to the tissue with which they are in contact, a part of the nutritive substances with which they were loaded.

In the simplest wounds of the cornea, those for instance which result from a single incision, the migratory cells very soon come to take part in the reparative process. A

certain number of them are seen on the lips of the wound at the expiration of four hours. Some of them go to the surface of the cornea and are taken off by the lachrymal secretions. Twenty hours later there are still a few of them present. At this time the solution of continuity is filled by epithelial cells which present all the signs of nutritive hyperactivity. They are large, filled with juice, and they have large nuclei.

They cannot accomplish this work without being abundantly nourished. There are no vessels to bring them their nourishment, as there are no blood-vessels in the cornea. The simplest way to account for the nourishment of these epithelial cells is by attributing this function to the migratory cells.

Let any one observe them in the edges of a wound resulting from an incision or in the bottom of a surface wound; the lymphatic cells always present the same characters, they have lost their protoplasmic chromatin, and they have multiple nuclei. Often, also, their protoplasm having been entirely dissolved, their nuclei are set free. These free nuclei are isolated or grouped just as they are seen in the entire cell. The number of these free nuclei varies considerably and appears to bear some relation to the intensity of the inflammatory phenomena.

R. is convinced that all these so-called inflammatory phenomena are only physiological phenomena.

In the interior of a living and perfectly healthy organism, some of the lymphatic cells are being destroyed and their nuclei are set free.

The migratory cells, in passing into the interior of the tissues, can then give up to them a part of the substances which they enclose. It may even happen that their entire protoplasm is dissolved and that the materials of which it is formed are dissipated in the nutritive plasma in which the organs live. If leucocytes absorb food-particles, it is undoubtedly in order to nourish themselves; but they can also give up these particles, after having carried them a long or short distance. These corpuscles enter all parts of the body where the blood-vessels cannot or do not penetrate, as for instance the cornea.

T.

DIPHTHERIA*

AN unrefuted statement of Dr. Bragmer, of Camden, N. J., was this, that statistics show "as many people are now dying from diphtheria and its sequelæ, in proportion to the population as there were before the serum treatment was introduced." Another statement of Dr. Bragmer, "If antitoxin does any good at all it is only to counteract the effects of the absorbed toxin of the disease," is followed by the query "Why not destroy the bacillus" *in loco*? He claims it can be done in cases seen early enough. He doubted "the utility of bacteriological examination for practical medical work" because "no bacilli are found in the throats of some of the very marked cases of diphtheria" and "many bacilli are found in some persons not sick with the disease." He looked at the remedy "in the same light as proprietary medicines."

Dr. Edwin Klebs, of Chicago, recalled that Dzierzgowsky, from examination of the different tissues of immunized horses, learned that antitoxin was found "chiefly in the blood-serum and plasma, showing it to be a product of transmutation of the injected culture-fluid." It was found that the culture-fluids of tubercle, diphtheria, and typhoid bacilli contain two different albumoses, separable chemically, the one with bactericide properties (soalbumoses), the other with poisonous properties (toxalbumoses), the latter of which alone are destroyed in the body, because they become oxidized. "The immunization is probably obtained by the active poison-destroying property of the leucocytes trained in the struggle against the toxins." "Behring concluded from the observed lack of bactericide properties in his serum that the curative principle of the serum must lie in new products formed in the immunized body." But Pfeiffer demonstrated these properties in the sera of animals immunized against Asiatic cholera and typhoid fever, and they are inferred to exist in diphtheria. He also

* Selections of the most important statements made on the subject before the section on Diseases of Children at the forty-eighth annual meeting of the American Medical Association, condensed from *four. of Amer. Med. Assn.*, Nov. 27, 1897 (pp. 1097-1109).

inferred the bactericidal properties of antitoxin because it was more efficient when used early and because it effected loosening of the membrane which could not be attributed to antitoxic influence. Therefore he concluded that both antitoxic and bactericidal principles acted "together to produce the curative effect of the serum," which leads up to the possibility of transforming the culture as such directly "without the passage through the body of the animal."

Dr. Coughlin, of New York, put in a strong plea for a "better understanding and adaptation" of the old remedies; insisted, after Trousseau, on forced and complete alimentation; decried the too free use of alcohol in these cases as being as probable a cause of fatalities in diphtheria as the toxemia of the disease itself, and placed the constitutional symptoms secondary to the local affection, and regarded them as due to absorption of the toxalbumins generated by the Klebs-Loeffler bacillus. These toxalbumins were so poisonous that 1-300 gr. injected into a full-grown guinea-pig was fatal. He advocated removal of the membrane by antiseptic local applications, specially mentioning peroxide of hydrogen in 15-volume solution, 50 per cent., for two minutes every two hours. For laryngeal cases, inhalation of antiseptic vapors, intubation, and tracheotomy. He rallied the forces opposed to the employment of antitoxin.

Dr. W. M. W. Gray, of Bridgeport, Conn., claimed the antitoxic treatment to be on a sound scientific basis, and quoted Welch, in 1895, that "antitoxin does not directly neutralize the toxin in a chemical sense, but rather that each of these substances acts in an antagonistic manner upon the living cells of the body." But the cells of the body may not be able to respond to the antitoxin after "prolonged action of the diphtherial poisons," or in coexistence of other disease. Ehrlich favored "the theory that the antitoxins neutralize the toxins by direct chemical action." The evidence for antitoxin was threefold, statistical, individual opinion of men of foremost rank in the profession, and records of cases. Professor

Welch says: "The testimony in favor of antitoxin is the strongest and most positive among those who have had the largest experience in its use, whereas the doubtful and uncertain opinions come mainly from those with limited experience in the employment of antitoxin." Before use of antitoxin Bosworth's statistics of 54665 cases of laryngeal diphtheria treated by tracheotomy gave a death-rate of 72.86 per cent. Those treated by intubation gave a death-rate of 72.81 per cent. in 4336 cases. On the other hand, of 1256 cases of laryngeal diphtheria collected by the American Pediatric Society, in which antitoxin was used, 723 got well without operation, and of the remaining 533 cases in which intubation was done, the death-rate was 25.90 per cent. In a second series of 1704 cases of the same character, 1036 were not operated on after use of the antitoxin, and gave a death-rate of 17.18 per cent; the remaining 668 required operation and gave a death-rate of 27.24 per cent. The death-rate in the German hospitals in 1895-6, in 9851 cases treated with antitoxin was 15.50 per cent. In the same hospitals, from 1883 to 1894, 157,721 cases were treated without antitoxin, and 42,176 died, mortality of 26.70 per cent. Baginsky remarked that "cases of laryngeal stenosis, and more especially those which do not come to operation, speak to me more forcibly than statistical figures. The surprising regression of the laryngostenotic respiratory phenomena, the disappearance of the harsh voice and the croupy cough, the euphoria of the children, the change in their general condition, so that in two days after an injection they are sitting up in bed playing contentedly and observant of their surroundings, all of these things produce in him who has had before his eyes for years the hopeless picture of continually progressing stenosis, in very truth ineffaceable impressions." Welch said: "A most convincing demonstration of the human power of antitoxin is supplied by the experience of Baginsky during an involuntary pause in the serum treatment caused by failure of supply of serum." In one year 525 children were treated by antitoxin in Baginsky's service, with a fatality of 15.60 per cent. Dur-

ing two months of interruption of the serum treatment, "126 children were treated without antitoxin, with a fatality of 48 per cent. There was absolutely no selection of cases in either group." Of this experience Baginsky said: "It is all the more remarkable as the ratio of mortality of those treated with the serum, both before and after the period of interruption, varied in very small percentage. . . It was an experience forced upon us, but it proved to us how numerous would have been the victims without the use of healing serum." Korte also "noted a rise in mortality from 33.10 per cent. during serum period to 53.80 per cent. when the supply failed." "Ganghofer, under similar conditions, noted a rise from 12.70 to 52.20 per cent. Hein, from 22 to 65.60 per cent."

DISCUSSION

Dr. Packard, of Philadelphia, said "the greater the statistics are the more accurate they are." He disfavored the prophylactic use.

Dr. Northrup, of New York, claimed that a "furious epidemic of diphtheria" in the New York Infants' Asylum "was stopped by prophylactic injections, and there were no accidents from the injections." The test made by the Pediatric Society, whose statistics were given by Dr. Gray, was crucial in that it selected intubation-cases of severe type without antitoxin as the control in comparison with similar cases treated with antitoxin. In the former cases the mortality was 73 per cent., in the latter 27 per cent. The dose should be as large as 2000 units, repeated within twenty-four hours if there is no manifest improvement.

Dr. Louis Fischer, of New York, said Professor Baginsky told him he had no more dread of diphtheria since he was using antitoxin than he would have had years ago from any simple ordinary constipation, and wished he had as strong a specific for the other infectious diseases. As a rule, when a child is not moribund, it must get well after treatment with the proper dose of antitoxin.

Dr. H. A. Arnold reported death in each of three children, aged 6, 7, and 9 years, on whom he had used a certain make of

antitoxin, each sample of which had the same number and letter. The bacteriologist appeared to wish to avoid explanation. One of these children showed abnormal slowing of the pulse and another albuminuria after administration of the antitoxin.

Dr. Cook, of Illinois, had 89 recoveries after antitoxin, using about 2000 units as initial dose. Ten or fifteen of these were severe laryngeal cases.

Dr. C. Graefe, of Sandusky, O., insists on repetition of the antitoxin in 12 hours if there is no improvement.

Dr. McFarland, of Philadelphia, emphasized the scientific principles of the treatment. A definite amount of the serum would protect a guinea-pig against an equal amount of toxin.

Dr. Cox, of Chicago, said that the antitoxin was sometimes stored in too warm a place and possibly spoiled before use.

Dr. H. H. Witherstine, of Rochester, Minn., reported 25 cases with one death. He found prophylactic use prevented the disease.

Dr. Rosenthal reported one epidemic of 102 cases, with but 3 deaths where no antitoxin had been used.

From the Detroit health statistics, Dr. Houghton reported a death-rate of 34.90 per cent. in 400 cases treated without antitoxin, and of 12.50 per cent. in another 400 treated with antitoxin. He claimed that three distinct epidemics in the Children's Hospital had been stopped by prophylactic injections.

Dr. Louis Fischer, of New York, replying to the question of Dr. West, of Texas, "What is the explanation of the action of the serum in the treatment of the cases of laryngeal diphtheria?" said that it involved "the basis on which most scientific work has been done." "We did not attack the bacilli so much as the swelling and edema, the result of the invasion of the bacilli and their products, the toxins. "We injected a substance that was capable of controlling the disease, just as we could control arsenic poisoning with the hydrated oxide of iron. We merely neutralize the toxemia which causes destruction."

H.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Cancer of the Skin

In the *Inter. Jour. of Surg.* (May and June, 1897) Dr. William S. Gottheil treats on the above subject. After demonstrating the liability of the skin to take on malignant growths, and impressing the fact that warts, wenns, and nevi are so frequently the starting-point of cancer, he says that, to his mind, the important points are: First, due appreciation of the starting-points of the lesion; that seemingly harmless ones are liable to take on cancerous growths, in what may be termed the cancerous period of life. These should be always carefully watched, and as soon as it shows the least deviation from the normal condition, the fissure, or excoriation, or wart should be closed and removed. The excoriation that will not heal; the senile wart that becomes irritated; the nevus that bleeds repeatedly; the scar that becomes hypertrophic—all these are suspicious conditions in a patient who has passed the meridian of life.

Second, we should have a knowledge of the new growth in its very earliest stages.

Third, some cases of cancer are, undoubtedly, best treated by surgery, but the larger number of growths which apply to dermatology are best handled in non-operative ways.

W.

The Passage of Micro-organisms Into the Blood at the Moment of Death

MM. Chvostek and Egger have recently published an article upon this question (*Wien. klin. Woch.*, No. 4; ref. *La Tribunc méd.*, 2nd series, No. 10, pp. 185-186). Their investigations were made upon frozen mice.

The experiments were conducted upon a series of mice, each series including three mice. One mouse was frozen and the blood from its heart examined immediately after the last respiratory movement, the heart still beating. In the case of the second mouse, likewise frozen, the same examination was made, but not until the dead body had remained two hours at the temperature of the room. The third mouse of the series served as a control. It was killed by crushing the vertex, and its blood was examined immediately afterward. Fifty experiments of this kind, in which 150 mice were used, gave the following results:

In fifty mice used for control-purposes and killed by crushing the vertex, micro-

organisms were found in the blood of the heart in only three cases—that is, in 6 per cent. Of the fifty mice frozen and examined immediately after death, micro-organisms were found in 44 per cent. in the blood from the heart. Finally, in the fifty mice that were killed by freezing, and whose blood was not examined until they had remained at the temperature of the room for two hours, it was found that the blood contained bacteria in only 16 per cent. of the cases. In comparing these figures, the authors attribute the presence of the micro-organisms in the blood, in the control-cases, to possible accidental infections from the air of the laboratory, the instruments, and the hands of the operators, etc. In every case the great disparity between the percentage found in the mice used as controls and that of the animals killed by freezing showed that micro-organisms invade the blood at the moment of death.

The authors state still further that the result varies according to the manner by which the animal is nourished. Thus, in the case of mice abundantly fed with milk, micro-organisms were found in the blood oftener than in the case of those nourished with dry bread; and in fourteen mice experimented upon, after they had fasted for some time, micro-organisms were found in the blood of only one, or in 7.1 per cent.

Seventy per cent. of these micro-organisms were different forms of micrococci. Among these micrococci the staphylococci were present in thirty-six cases; the colon bacillus was only found in 10 per cent. of the animals. According to the authors, these micro-organisms can only come from organs which normally contain them—that is, from the intestine. Contrary to the opinion of Wurtz, the authors think that lesions of the intestine are not sufficient to account for the passage of the bacteria from the intestine into the blood at death. There existed a more or less intense congestion of the intestine in their frozen mice and rabbits, which certainly constituted a favorable condition for the passage of the bacteria into the blood; but they are of opinion that, in their experiments at least, it is necessary to take into consideration the lowering of the vitality and of the resistance of the tissues produced by the cold.

What seems in contradiction to the current ideas, in these experiments, is that micro-organisms were found oftener in the blood of animals frozen and examined immediately after death than in the blood of those animals that remained at the temperature of the room for two hours before examination. The authors explain this contradiction by the bactericidal properties of

the blood, by means of which, as long as the heart is beating, those bacteria that are killed by the blood contained in the cavities of the heart are replaced by others coming with the peripheral blood. In inoculating, then, the blood from the heart that is still alive we remove the micro-organisms from this bactericidal action of the blood and place them in conditions particularly favorable for development. But the action of this factor is by no means an absolute one, and in the interpretation of the results, which may vary, one must take into consideration the number of bacteria which have invaded the blood, the strength of the bactericidal properties of the fluids and organic tissues, which may vary with the animal species, the time when the bacteriological examination was made, etc.

In all these experiments the bacteriological examination of the blood was made at the same time as that of the peritoneum. In a general way, bacteria were found oftener in the peritoneum than in the blood, except in the animals frozen and examined immediately after death (a difference of 10 per cent. in favor of the blood). According to the authors, this result is easily explained by this fact, that in the frozen animals the peritoneum and the abdominal cavity were the least protected regions against the cold, which, consequently, directly weakened the vitality of the microbes which penetrated there. T.

The Trachoma Bacillus

Dr. Leopold Mueller (*Wien. klin. Wochens.*, No. 42, 1897) has succeeded in cultivating a bacillus which he obtained from the conjunctival secretion of patients affected with trachoma. It is a minute rod-shaped bacillus, growing only on blood-serum. Out of fifteen cases of trachoma, the bacillus was found in twelve, and it could also be demonstrated in dry cover-glass preparations and in sections of the conjunctiva. In all other varieties of conjunctivitis the bacillus could not be found. R.

Etiology of Night-frights in Children

M. Rey, in *Jour. de clin. et de Thérap. inf.* (No. 44, p. 874, 1897), takes exception to the etiology of nocturnal night-frights, as given by M. Braun in a former communication. (See A.M.-S.B., Sept. 25, 1897, p. 841). This author had attributed them to neurasthenia, and regarded them as a reliable sign of that condition. Rey, however, finds in thirty-two cases arising naturally in his practice, that removal of adenoid vegetations invariably gave peaceful sleep, stopped the

sudden awakenings with fright, improved the appetite, and general well-being, put an end to snoring, and, in a word, removed all the symptoms of neurasthenia pointed out by Braun.

After reproducing the history of these cases he proceeds to argue that the night-fright is due to intoxication by carbonic acid caused by obstruction to normal respiration, vegetations in the naso-pharynx being the chief of such obstacles. The fright is provoked by neurasthenia, but it in turn is due to this other factor. Girls are not as often affected by adenoids as boys. As a rule, the period in which the symptoms are worst is between 2 and 7 years of age, disappearing gradually towards the 10th year. The nocturnal fright does not return after removal of adenoids. The author found but a single recurrence in his cases, and that for once only. H.

The Cerebrospinal Fluid in Man

In *Hoppe Seyler's Zeitschrift*, Vol. XXIII, p. 550, Mann gives the results of an examination of the cerebro-spinal fluid.

As a rule, it is a clear-yellow liquid, with a faintly alkaline reaction, sometimes being stained with blood. On heating, a faint cloudiness is produced, and on the addition of acids there is a distinct precipitate. After the albumin is removed the fluid reduces oxide of copper; but Nylander's and the phenylhydrazin tests show the absence of sugar. The biuret-reaction for proteids is marked.

The exact composition of the substance that reacts like grape-sugar to Trommer's and Fehling's tests was not ascertained. J.

Treatment of Eczema by Picric Acid

M. Cust Goucher (*La France méd.*) suggests a new treatment for acute eczema, which he thinks superior to other methods employed, assuming as a basis for his treatment the special action of picric acid on epithelial cells, and also the efficiency of this agent in superficial burns, he thinks it possible to utilize this substance in the treatment of acute eczema and in all acute eruptions having the character of eczema. This treatment has been employed with success by Dr. MacSennon, of Glasgow. As in the case of burns, it is used in the form of an aqueous solution of 1 per cent., with which a dressing is saturated, or a compress saturated with same solution may be applied.

He applies the dressing and leaves it in place for two days. At the end of that time the inflammatory condition is much improved; the swelling and the exudations are much diminished, sometimes they have en-

tirely disappeared, and the cuticle begins to fall off. The same application is renewed and the same dressing every second day, and after a little time the acute inflammation is entirely removed. This solution of picric acid has also the very desirable quality of removing the intense itching in a very short time after its application. This method of treatment is applicable only to the vesicular or the form known as moist eczema; it may be used when the skin is moist and red, but is of no value except in its acute stage.

In cases of chronic eczema, or those having the characteristics of lichen, the acid will not relieve the itching or the induration of the skin. It is applicable only in superficial cutaneous inflammation and especially in diseases of the epidermis.

It may be employed in other superficial affections of the skin with advantage when the surface is moist, and especially in all forms of pemphigus. Eczema is a very common form of skin-disease, and the contributor has employed it in two severe cases, with the result as given above. Generally a very free use of hydrocyanic acid dilute has given satisfaction, as it does in follicular vulvitis and in similar diseases in which the itching is intense. The solution of picric acid seems to serve the same purpose.

X.

Milk Tested by Indigo-carmin

Dr. Vaudin (*Bull. de l'Acad. de méd.*, Nov. 30, 1897) found that if a few drops of a solution of indigo-carmin are added to milk the color produced by it disappears as the action of the microbes in the milk decolorizes it. He determines the age of the milk by the duration of the tint, thus in fresh milk it lasts about twelve hours at 15° C., five hours at 15 to 20° C., and four hours at 20°. When there are several decigrams of lactic acid to the quart of the milk, the tint vanishes almost instantaneously.

S.

Hepatic Colic Treated Successfully with Large Doses of Olive-oil

In a clinical lecture delivered at the Necker Hospital, Dr. Barth (*Med. Week*, Dec. 17, 1897) cited two cases in which repeated ingestion of large doses of olive-oil succeeded not only in stopping at once the hepatic colic, but also in rapidly freeing the calculi which blocked the common bile-duct and re-establishing the biliary circulation. In one of the cases the symptoms of lithiasic obstruction and of biliary retention had existed for several months and had been constantly growing worse.

After reviewing the morbid physiology

of the affection, the author goes on to explain what takes place after the ingestion of a considerable volume (three or six ounces) of olive-oil in patients suffering from hepatic colic. The stomach being empty and presenting irregular spasmodic contractions, the unctuous fluid rapidly spreads over the whole of its inner surface and a portion of it passes into the duodenum. The oil rapidly exerts its soothing action on the irritated mucous membrane, and thus, by reflex action, arrests the spasm, which is the main factor in the crisis. When it has reached the duodenum, the oil comes in contact with the orifice of Vater's ampulla. If the biliary ducts are still pervious, the oil can evidently not pass into the ductus choledochus, which is traversed by a descending current of bile. When a gall-stone has become impacted in the duct and has blocked the passage of bile, capillarity comes into play and probably enables the oily liquid to soak into the flaccid mucous membrane of the canal and to reach up to the foreign body, which, as a rule, is situated but a few millimeters from the orifice.

Is the oil capable of exerting a direct dissolving action on cholesterin calculi? Chauffard and Dupré have studied this question. Cholesterin calculi having been immersed for several days in olive-oil at the ordinary temperature, they were found to have remained unaltered. Brockbank, on the other hand, repeated the experiment with olive-oil at the temperature of the body, and found that one calculus, weighing 160 ctg., lost one-half of its weight within four days; a second one, which weighed 160 ctg., lost 44 during the same time of immersion.

This direct action of the oil is not the only one exerted by it. While it remains in the intestine, the digestive juices act upon it, and split it up into fatty acids and glycerin; a part remains incompletely saponified and is evacuated in the form of the olive-colored concretions, which the uninitiated readily look upon as gall-stones. They are simply composed of fatty material, rich in palmitin and free palmitic acid (Villejean). The rest of the oil is absorbed and passes into the circulation. This digestive elaboration is accompanied by a very abundant secretion of liquid bile, which commences about three-quarters of an hour after the ingestion of the oil and is still going on three hours later. Rosenberg, who first observed this phenomenon, believes it to be of the nature of a reflex action. Stewart and Ferrand, on the other hand, hold that it is due to the absorption and passage through the liver of the fatty acids and glycerin, formed in the intestine. Ferrand indeed went so

far as to propose substituting glycerin for oil in the treatment of hepatic colic, hoping thus to obtain a more direct and a more certain cholagogue action, which, in his opinion, is the main point in the treatment.

Whatever the true mechanism of this cholagogue action of large doses of oil, the fact itself is unquestionable, and it is easy to understand that the flow down the biliary ducts of a large quantity of liquid bile must in some measure be of assistance in the progression of the calculi and their passage into the intestine, provided the spasm of the excretory canals have previously disappeared.

It is evident also that this hypersecretion must be of good service in flushing the intra-hepatic ducts, pushing on the plugs of inspissated mucus, epithelial debris, biliary sand, in a word all the stagnating masses, the prolonged arrest of which favors the development of irritative processes, finally ending in biliary cirrhosis.

Extirpation of Thymus-glands

Carbone, of Torino (*Giornale d. R. accad. di Med.*, Sept., 1897), removed a number of thymus-glands from rabbits with the following general results:

1. The thymus is an organ which the animal can get along without, it is apparently not indispensable.

2. When removed the body-weight does not seem to be affected.

3. There are no blood-changes following its ablation in rabbits, and it apparently has no characteristic influence upon the hematopoietic organs.

4. The increased elimination of nitrogenous materials in the urine, he thinks to explain by reason of vagus irritation which may modify the vessels of the malphigian tufts.

J.

Echinococcus in Tyrol

Dr. Adolf Posselt (*Deutsch. Arch. f. klin. Med.*, LIX, pp. 1-78) discusses this subject in an exhaustive article, giving the histories and other data of thirty-seven cases. His conclusions are as follows:

1. To those localities in which the *Echinococcus multilocularis* is known to be endemic, viz.: southwest Bavaria, south Wuerttemberg, north and northeast Switzerland, the Tyrol must be added.

2. Judging from the relative frequency of the parasite in comparison to the population and area of the infected district, the Tyrol must be assigned the first position.

3. In the Tyrol there are two chief districts where the multilocular echinococcus tumor is prevalent, viz.: one including north-

easterly Tyrol, the western limit of which is formed by the lower Unterinn valley and the Wildschoenau, the southern by the Brixen valey, and the eastern by the Salzburger border. These are, therefore, the northeastern areas which border on Salzburg and Bavaria, between both of which countries the districts mentioned form a wedge. The other circumscribed area, located in the center of the Tyrol, includes the district at the entrance to the Puster valley, north of Brixen, especially the vicinity of Muehlbach.

4. The hydatid echinococcus is seldom observed in Tyrol, and appears to be sporadic and territorially limited to the southern portion, viz.: in the region of the Trento, which lies immediately north of Garda Lake, between this, the southwest border of the country, and the river Etsch.

5. From a medico-geographical standpoint, there seems to be a sharp segregation in the Tyrol as regards the occurrence of both forms of echinococcus.

6. The *Echinococcus multilocularis* is of far more frequent occurrence in Tyrol than *Echinococcus hydatidosus*.

7. Up to the present the multilocular echinococcus tumor exclusively affected the peasantry, or at least those employed in the country districts.

8. As in other localities, severe icterus is the chief clinical phenomenon associated with the affection as seen in the Tyrol. A.

The Clinical Forms of Beri-beri

Dr. Max Glogner (*Virchow's Archiv.*, CXLVI, p. 129) offers apparent proof that, in high degrees of beri-beri, the nerves of the vessels participate in the process; hence, the assumption of a true vasomotor form appears justifiable. He refers a series of clinical and anatomical observations solely to an affection of the vessel-walls and their nerve-endings which, within definite areas of the greater and lesser circulatory system, results in the development of paralysis of the vessels and spasmodic conditions, congestion, and increased tension. These explain the frequent alterations in the heart (hypertrophy, dilatation, intensification of the pulmonary sound, increased action), the transitory dyspnea, the oppression, the sensation in the thorax, the variation in the excretion of urine, the unequal distribution of blood to the different organs, the congestion of the lungs, and the pulmonary edema in the absence of heart-weakness. The heart-murmurs frequently heard at the pulmonary orifice must also be referred to long-continued overdistension of the lesser circulatory system.

In these cases the author found a secondary dilatation of the beginning portion of the pulmonary artery; and the murmurs are explained by abnormal vibrations of its released walls.

Numerous sphygmographic tracings, taken upon many arteries in each case; measurements of the cutaneous temperature and of the blood-pressure, seemed to indicate that a pathological process existed in the vessels. The author differentiates three groups of beri-beri as it chiefly occurs in the Malay archipelago: 1. The vaso-motor; 2. the motor; 3. the mixed forms. He gives an example of each. The phenomena occurring in connection with the peripheral sensory nervous system are only of mild form and have no relation to the severe motor and vaso-motor disturbances. The more the latter predominate the more serious is the prognosis. A.

Pigmented Cells in the Stomach of Mosquitoes Fed on Malarial Blood

Surgeon-Major Ronald Ross, India Medical Service, contributes a communication to the *Brit. Med. Jour.*, Dec. 18, 1897, pp. 1786-1788, describing pigment-cells like those of the malarial parasite which he found in the stomach of two mosquitoes of a rare species (which he calls brown, as distinguished from gray and brindled varieties). He had been feeding the two latter varieties on patients having crescents in the blood to examine their tissues for parasites similar to the hemameba in man. In these varieties he found six new varieties of parasites of the mosquito; he had not succeeded in tracing any parasite to the ingestion of malarial blood. But in the brown variety, which he examined after abandoning the others, he found remarkable and suspicious cells containing pigment identical in appearance to that of the parasite of malaria. This mosquito is very rare, and for that reason he was not able to continue his investigations further at the time of this report. The mosquito is described. They were fed on a patient whose blood contained fair to few crescents (and also filariæ). The cells he regarded as distinct from the mosquito's stomach-cells, being more solid, round, and 12 to 16 microns diameter. The contents were full of stationary vacuoles; no sign of apparent nucleus, contractile, vesicle or ameboid or intracellular movement. Each of these bodies contained a few granules of black pigment, absolutely identical in appearance with the well-known and characteristic pigment of the parasite of malaria. The granules were more scanty in comparison to the size of the cell than in

the hemameba and numbered from ten to twenty in each. They were very black and striking. These cells, so exceptional, he has found only in this single species of mosquito fed on malarial blood. They seem to grow between the fourth and fifth day, and to contain the characteristic pigment of the parasite of malaria. He judges they are not normal physiological cells, because he has become familiar with these from having examined about a thousand mosquitoes more or less carefully. An allied species fed on healthy blood did not present them. He expects to find them to be the alternative from the mosquito of the parasite of malaria in man. The parasitic nature of the cells, however, cannot be accepted until certain facts as to structure, sporulation, etc., have been demonstrated. Even if so, they must be shown to be dependent on the ingestion of the malarial blood.

Surgeon-Major John Smyth, I. M. S., also saw, examined, and described them. The two slides were then sent to Dr. Manson, who says: "I am inclined to think that Ross may have found the extracorporeal phase of malaria. If this be the case, then he has made a discovery of the first importance." H.

Determination of Indican in Urine

Amann (*Repertoire de Pharmacie*), after acidulating with a few drops of sulphuric acid to 20 c.c. of urine, 5 c.c. of chloroform is added, and to this mixture 5 c.c. of the persulphate of soda is added. The whole is then shaken in a test-tube, not to such an extent, however, as to break up the chloroform-layer. The results show that the indigo formed is found in the layer of chloroform. The water is colored red, and, according to the intensity of its coloration, some idea may be obtained of the amount of skatol products. This method has the advantage of rapidity. J.

Defective Development in Children

Louis Fougères Bishop, A. M., M. D., *Jour. of Amer. Med. Asso.* (p. 1245, Dec. 18, 1897) suggests that attention to the developing mind in children may rescue many children from the class of useless idiots. The etiology of idiocy has always been a source of speculation. The author's term defective development suggests that the trouble in idiocy is quite general throughout the whole economy. The cause of the deep-seated vice of development is some force that has influenced the thing we call life. Heredity is found in 38 per cent. Hemorrhage and other infantile cerebral diseases are examples of arrested

development. Slight defect of hearing or eyesight will retard development in a marked degree. A physically strong child may be too restless in his condition of defective development to fix his attention. Such a child is unfortunately situated as a pupil in a large class where he gets little individual attention. The educational work in defective children should be very simple, consisting of few things. The character needs equal care. It tends to stubbornness and perversity. "The defective child is unable to subdue its own personality and unable to recognize the authority of others." Severity is wrong. When ungovernable temper is accompanied by extreme restlessness of manner and inability to fix attention, the diagnosis of defective development is easy. The history of a cause, or recurrent convulsions, certify the diagnosis. H.

Physiological Action of Choline, Neurine, and Allied Substances

In the *Jour. of the Chem. Soc.*, (Vol. LXXI, No. 410), F. W. Mott and H. D. Halliburton report the results of a series of investigations with these compounds. When injected into the circulation small doses of choline hydrochloride cause a marked temporary fall of the blood-pressure, which is cardiac and not peripheral in origin.

After section of the vagi, the same phenomenon occurs. Neurine hydrochloride produces a preliminary fall and a subsequent rise of pressure, respiration being slowed and deepened. This drug is more toxic than choline. Respiratory paralysis supervenes before cardiac paralysis.

The interesting fact is brought out that these observations are of special moment in that, the cerebro-spinal fluid, in cases of brain disease, where more particularly there is great tissue waste, as in general paresis, is toxic in much the same manner as choline. Here it is to be surmised that the choline is to be derived from lecithin. J.

Disinfectants

Dr. W. R. Stokes, in a paper read at the late meeting of the Maryland Public Health Association, made the following remarks concerning disinfection by formaldehyd gas (*Maryland Med. Jour.*, Vol. XXXVIII, No. 9):

Having considered some of the means which are used in order to avoid infection from the patient, the question arises as to whether a room which has contained a case of communicable disease can remain a source of infection to others. From what has been said it will be seen that dried tu-

berculous expectoration and diphtheritic secretions can and do infect healthy persons, and the dry epidermic scales from a scarlet-fever patient probably spread the disease.

We now possess a method of disinfecting rooms by which the germs of all of these diseases can be destroyed, and its efficiency has been tested by intentionally exposing infected materials in rooms of ordinary size. This most important sort of disinfection is done by the use of formaldehyd gas, and many elaborate processes have already been devised for generating this powerful germicide.

In most of the processes a substance called formalin is used. This is merely a 40-per-cent. solution of formaldehyd gas. One quart or more of this formalin is placed in a large receiver, with chloride of calcium in order to prevent any steam from mixing with the pure gas. The receiver is then tightly closed and a lamp beneath the receiver is used to heat the mixture. This causes the liberation of formaldehyd under pressure, and it is introduced into the room through the keyhole by means of a fine, flexible metal pipe. All openings and cracks should be stopped up in order that the gas may be confined as closely as possible within the infected space. Formaldehyd can also be generated from a pastile, causing superficial disinfection.

Germs of all the various diseases, such as cholera, typhoid fever, bubonic plague, anthrax, tuberculosis, diphtheria, and the germs of ordinary inflammation have been exposed in close rooms to the action of this gas. Pieces of cloth soaked in cultures of disease bacteria have been exposed freely in the room, or covered by blankets and carpets. Germs have been placed between the leaves of books, put into envelopes in the pockets of clothing, or even placed in the interior of mattresses. It has been found that after exposure to this gas, not only were the germs on the surface destroyed, but if enough gas was present, the germs covered by blankets, or even in the depths of a mattress, were killed. This was proven by placing these same germs on culture media, after exposure to the gas, when it was found that they were no longer able to increase, and form visible growths. About one quart of formalin should be evaporated for a room of 1000 cubic feet, and the room should be closed for twenty-four hours.

Such treatment will destroy any germs which may have been left in the room by a recent patient, and render it a safe habitation for future use. It will also destroy any germs which may have remained in the folds of draperies or hanging, and even cloths

hung up in the room can probably be rendered free from infectious bacteria. The method also possesses an advantage over many other similar processes in that it does not alter or injure the colors of fabrics, furniture, or other articles of household use.

The gas is not poisonous, but it is extremely irritating to the mucous membranes of the eyes and respiratory tract. This irritation can be avoided by rapidly opening the windows without drawing a full breath in the room, and by wearing close-fitting goggles. All things considered, it would seem that formaldehyd gas is a very satisfactory disinfectant, when used in sufficient quantities, and it is already being extensively adopted for routine disinfection. B.

Tubercular Peritonitis

In an article on this subject, *The Cincinnati Lan.-Clin.* (Vol. XXXIX, No. 22) quotes Holmes as arriving at the following conclusions:

1. Tubercular peritonitis is a relatively common disease.

2. It is never a primary disease, though it is usually impossible to find the initial focus.

3. Recovery follows laparotomy as a general rule, unless there is an initial focus remaining to keep up the disease.

4. This disease appears in three forms, the exudative form, the dry form, and the ulcerating form, and they are recognizable in the order named.

5. Macroscopical examination of the peritoneum is sufficient for a positive diagnosis. The demonstration of microscopical tubercles or the recognition of the bacilli is only confirmatory.

6. Puncture of the abdominal wall for diagnosis or for the removal of ascites and injection of air, fluid, or iodoform, is dangerous and should not be practiced.

7. Laparotomy, with iodoform-gauze tamponade drainage, is the safest and most reliable treatment.

8. Laparotomy should be done as soon as 'here is a show of emaciation or when a relative diagnosis has been made.

9. A positive diagnosis can never be made before laparotomy. B.

Anal Fissures and Ichthyol

Dr. Jules Chéron states (*Gaz. de Gyn.*, Feb. 1, 1897) that the employment of ichthyol, in conjunction with cocaine, has given constant success in the treatment of anal fissure. His method of treating is to first apply a small cotton tampon impregnated with a 5- to 10-per-cent. cocaine-hydrochlorate solution, and, when local anes-

thesia is had, which requires about five minutes, to permit a few drops of undiluted ichthyol to fall upon the part from a glass rod. This procedure is followed every day. At the fourth or fifth treatment the cocaine tampon is introduced as far as the sphincter, and at the end of five minutes it is possible to dilate the anus, and treat the fissure through its entire length with ichthyol. In proportion as cicatrization advances, the dilatations are more easily made, and may be pushed further, so as to overcome the contraction of the sphincter that so frequently accompanies fissures of long standing. Recent fissures may be cured in about ten applications by the method of treatment given. Fissures of long standing, with more or less callous margins, require a longer time for a cure, but it is even then rarely necessary for more than twenty applications. F.

The Tendon-reflexes in Sciatica

In the *Gaz. des Hopit.* (Vol. No. CL), J. Babinsky shows that whereas in healthy individuals the tendon-reflex is normal, in sciatica there is usually a diminution or a loss of such tendon-reflex. This phenomenon was found not only in severe cases of the disease, but also in much lighter forms as ischialgia. In some cases there is a marked difference in the reflexes on the two sides of the body.

The author considers this a valuable diagnostic sign, especially to differentiate simulation and hysterical sciatica. It is not clear, however, that incipient tabes is ruled out in the report of the author. J.

Catching Cold as a Cause of Disease

Dr. A. Chelmonski (*Deutsch. Arch. f. klin. Med.*, Bd. LIX, pp. 140-153) offers the following conclusions:

1. "Catching cold," in the ordinary and still prevailing sense, does not exist.

2. In general, "catching cold" plays a very subordinate rôle as an etiological moment. In inflammatory diseases "catching cold" can appear simply as a disposing cause.

3. "Catching cold" depends upon the action of thermic agents, which are usually unavoidable, i. e., chief of all upon very slight degrees of cold.

4. The degree of cutaneous reaction to the given thermic irritant indicates whether the individual can take cold under certain conditions.

5. The degree of disposition to "catching cold" constitutes no distinct peculiarity of the individual in question.

6. Individuals of advanced age, febrile

patients, and those suffering from kidney affections, appear to be more disposed to diseases resulting from "catching cold."

7. There is no connection between the disposition to a disease resulting from "catching cold," on the one hand, and the state of nutrition and the sensibility to temperature on the other.

8. The prophylactic measures generally employed against "catching cold" are not only accompanied by a directly opposite result, but they rather expose the organism to a much more serious danger than would be expected to result from disease consecutive to "catching cold."

9. Protection against diseases resulting from "catching cold" can solely be secured by developing the reactive capability to thermic irritants by appropriate exercise.

A.

Bilirubin and Its Transformation into Biliverdin

Drs. A. Dastre and N. Floresco (*Arch. d. Phys.*, XXIX, p. 475; ref. *Schmidt's Jahrb.*, Bd. 255, p. 1) state that bilirubin does not exist in the bile as such, but as an alkali salt, since it possesses acid properties. Free bilirubin is not oxydized to biliverdin in the air; rather bilirubinate is transformed into biliverdinate. This transformation depends upon four factors; alkalinity of the solution, presence of oxygen, light and heat. Bilirubin is not altered in neutral solution at ordinary temperature; but at 100 C. it is at once changed to biliverdin. This also occurs in the absence of light and air. For transformation in alkaline solution at normal temperature, the presence of light and air is necessary.

A.

Hysterical Neurosis of the Skin

Arthur Van Harlingen, in the *Amer. Jour. of Med. Sci.* (CXIV, No. 1) calls attention to diseases of the skin with hysterical etiology. He says that the chief affections of the skin occur in cases of hysterical erythema, dermatitis, urticaria, hyperidrosis, edema, urticaria bullosum, pemphigus, herpes zoster, eczema, gangrene, pigmentation, vitiligo, lichen chromidrosis, ecchymosis, hematidrosis.

Erythema is a common form of hysterical neurosis of the skin, and it may form the basis for other eruptions. Frequently it cannot be distinguished from ordinary erythema, but in many cases it tends to develop and change its character into a dermatitis, an urticaria, a purpura, or a gangrene.

Urticaria is one of the common and usual forms met with in hysterical people; and is often the basis for the severe forms of hys-

terical skin-diseases, as, frequently, hemorrhagic and gangrene urticaria.

Hyperidrosis is one of the symptoms that has been known the longest. It has been noted by Sydenham. Many cases of hyperidrosis are unilateral.

One of the most interesting dermatological symptoms of hysteria is edema. It has been fully described by Weir Mitchell and Charcot. It usually occurs in connection with other hysterical symptoms, and is most commonly unilateral, although eruptions have been noted. The appearance of the integument varies; the color may be white, as in ordinary dropsy, or red, but most frequently it is blue or violet. Hysterical edema is always hard, pressure makes no impression. There is no exudation of serum on puncture. Whatever form it may take, hysterical edema is almost always accompanied by sensory troubles.

Pemphigus has long been known under the term of pemphigus hystericus. The eruption is much the same as in pemphigus vulgaris. The most frequent site is upon the limbs, although any portion of the body may be attacked. The bullæ of pemphigus hystericus may dry up and leave crusts without any pigment stain, or an ulcer may form, and healing, leave a keloidal scar.

The writer is undecided about placing herpes zoster among the hysterical neuroses. He quotes a case from Ferré of apparent hysterical zoster.

Eczema is another disease of which he is uncertain regarding the hysterical element, and is rather inclined to place the eczematous outbreaks under the head of dermatitis.

The occurrence of gangrene in connection with hysteria is not, comparatively speaking, uncommon. It occurs in several different forms, and is usually accompanied by tingling, itching, or darting pains.

The so-called herpes gangrenosus of hysteria has nothing herpetic about it; it is simple multiple gangrene.

Hematidrosis, or bloody sweat, is one of the most striking manifestations of dermatoneurosis. Since the appearance of Parrot's monograph this affection has been regarded as a neuropathic hemorrhage, and the reported cases are found to be strictly dependent upon neurotic conditions. In some cases the exit takes place from, apparently, perfectly normal skin, but more commonly an erythematous patch makes its appearance, the skin is raised into a blister which breaks open, and blood or blood and serum mixed flow from it. Sometimes the loosened epidermis seems to float off, leaving a raw, oozing surface covered with a dew of blood. Where the skin is thick, fis-

tures may precede the lesion. The general symptoms vary greatly, but are always of a highly hysterical character; attacks of fury, lethargy, ecstasy, and the like, usually precede the outbreak. Although there is a considerable amount of blood lost, the patient usually enjoys fair health, and does not seem to suffer from the loss.

In conclusion, the doctor says: "The fact that the dermato-neuroses resulting from organic disease so closely resemble in their nature those occurring in hysteria is of importance when we come to consider the question of the supposed factitious character of some of the hysterical eruptions.

"Until within the last few years most of the hysterical dermato-neuroses were considered as belonging to the category of feigned diseases. We know now that the phenomenon of auto-suggestion is one of those most conspicuous in the etiology of hysterical affections of all kinds, and we have sufficient data to assume auto-suggestion to be at the bottom of the production of many of the dermato-neuroses of hysteria.

"As a result of such experiments, and of more careful observations, the conviction has grown that feigning in the ordinary sense of the word has no place in the production of the hysterical dermato-neuroses, and the term 'hysterical feigned diseases' of the skin is a misnomer.

"Whether auto-intoxication or intoxication, as by lead-poisoning, etc., may or may not account for the production of hysterical symptoms of other kinds, I am not prepared to express an opinion. I am inclined to believe, however, that such causes may have influence in the production of some of the skin-manifestations of hysteria." S.

Prevention of Follicular Tonsillitis

A. S. Maxson, in *Jour. of Pract. Med.* (Dec., 1897), says that the prevention of this affection is desirable in at least two classes of cases: Those occurring during an epidemic, and also those where there are repeated attacks occurring from once a month to once a year. Those occurring only during an epidemic can be prevented by a mild antiseptic wash, with or without the internal administration of benzoate of soda. The chronic cases, which are subject to frequent and repeated attacks, are very annoying to the physician and damaging to the patient's health. Such was the writer's experience until he discovered and applied a treatment that he has lately found to be known and used by others, but which is not mentioned in any literature to which he has had access. The treatment consists in destroying the contents of each follicle

that is diseased in both tonsils. He believes that the follicle is not destroyed, but the colonies of germs that make an abiding-place in the follicles are destroyed.

The writer's custom has been to take a doubled piece of silver wire, such as is used for suture, and solder its free ends to a large wire; then to dip the doubled silver loop into melted nitrate of silver, so as to make a small bead on its end, after withdrawing it from the melted silver salt. The silver wire is then bent half an inch from its distal end, so as to make an angle of 45 degrees.

This bead of caustic is inserted into each follicle to its bottom. The depth will vary from one-fourth to one-half an inch. One caustic bead will usually treat from one to two follicles. By means of several beads, all the follicles may be treated. This treatment is undertaken at any time except when the tonsils are acutely inflamed. It requires one or two treatments to effectually prevent its return. The author has used this treatment for eight or ten years, and found it entirely reliable. He knows of no case that has not been given a very complete immunity, even when subject to attacks every two to eight weeks before the treatment.

B.

The Treatment of Cutaneous Malignant Epitheliomata

A. R. Robinson (*Polycl.*, July) claims that certain caustics when properly applied are usually much more reliable than the knife for the removal of the disease, at the same time the resulting scar or deformity is less. He briefly discusses the principles which should guide the physician in the treatment, in the selection of the caustic, the manner of its application, both as regards the strength of the application and the extent of area to which it should be applied, and the duration of application, in order that the disease be removed with the greatest certainty and with the least amount of destruction of normal tissue. A knowledge of the form, location, direction, and rapidity of the growth of the cancer is of value in forming an opinion as to the probable extent of the invasion, and should be carefully noted in every case in order that the disease be thoroughly removed and yet no unnecessary mutilation of normal tissue be produced. It is necessary that the removal be rapid and complete, in the deeper-seated growths particularly, as inefficient treatment hastens the growth of the tumor and favors secondary lymphatic gland infection, when the disease can usually be regarded as incurable. Arsenous acid, in the form of Marsden's Paste, is the most valuable agent in treatment, although the author prefers, usually,

equal parts of acid and powdered gum acacia, in place of two parts of acid and one of acacia, the strength being regulated according to the case. If the epidermis be unbroken it should be destroyed with some agent before applying the paste. The paste, furthermore, should always cover an area considerably beyond the apparent limit of the tumor, as that is never its real extent; it should be left on from eight to twenty hours, depending upon the vulnerability of the part and the strength of the paste. As the action of the arsenic is elective in character in this disease, it follows that with it the best results are obtained with the least destruction of normal tissue, and it is to be used in all cases when not contraindicated. If the part is examined when the paste is removed, and the desired result has not been obtained, another application should be made at once, and as the part is now probably more vulnerable than before the first application, the next paste should be weaker or left on a shorter period of time. The action desired must be obtained or the patient is injured instead of benefited. If satisfactory, the part is to be treated as a simple wound and should heal quickly under proper dressings. When seen early and treated as above, in the opinion of the author, epithelioma is not the fatal disease it is too often supposed to be by physicians.

L.

Acne Rosacea Successfully Treated by Dermic Injections of Formaldehyd

J. T. McShane, M. D., in *Jour. of Amer. Med. Asso.* (Dec. 18, 1897, p. 1261), relates the case of an unmarried lady of 30 years of age with acne, pustulo-papular, of ten years' duration, which he treated successfully with one-minim injections into the dermal area of the acne point of a 1-per-cent. solution of formalin. The effect was a sting and a wheal like urticaria, as large as a ten-cent piece. He attacked as many points as would cover the face with such resultant wheals. The process was repeated every week. Little tendency to recurrence, and face resumes white, normal aspect.

H.

The Baby's Eyes in the Perambulator

A timely presentation of this subject was made before the Section on Diseases of Children at the forty-eighth annual meeting of the American Medical Association by Dr. Mary E. Baldwin, *Jour. of the Amer. Med. Asso.* (Dec. 18, 1897, p. 1246). Children in the baby-carriage stage of their life are deplorably neglected, especially as to their eyes. The day selected for an outing is always a bright spring day, with nothing intervening between baby's eyes and the ex-

cessive brightness except the brightly lined and dangle-fringed tetor-tortor umbrella. All the coverings in the carriage are chosen of whitest material to increase the dazzle. If water is near and the carriage is wheeled to it over rough paths, the jar and the glint will both magnify the unsteadiness of blinding glare. To name the evil is to suggest the remedy. The dull days are to be preferred. The umbrella must be stationary, lined with green, through which no rays penetrate, without fringe, and shutting out excess of sky. Covers must also be dark. Possibly the eyes of the present generation suffer greatly from neglect of these points.

H.

An Uncommon Case of Leprosy

Pellizzari (*Settimana Medica*, No. 24, 1897) studied an interesting case of leprosy having a slow and benign course.

The case was a woman, 57 years old, who had been a prostitute since 17, and who had marked stigmata of degeneration. On the flexor surface of the right arm, along the course of the median cephalic vein, there was a linear cicatrix 7 or 8 millimeters long, connected with a semicircular zone 8 centimeters in diameter, including a smaller and circular one. The smaller zone was yellowish, and in some spots brown, slightly elevated, especially around the excretory duct of the cutaneous glands, while the surrounding semicircular zone was atrophic and unpigmented. To confirm the diagnosis an incision was made into the pigmented zone, and the blood with some detritus of the dermic tissue, thus obtained, was examined. Numerous specific bacilli were found.

The histological preparations showed that the infiltration of the affected skin did not have the characteristics of a true nodule. The rest of the skin was normal, except that in some spots it presented an infiltration of a few connective cells, specially around the sweat-glands. The case was not anesthetic, nor tuberculous leprosy, but a simple leprous infiltration.

Concerning the date of the inoculation, the following statement is of interest. The patient was born in Leghorn, where several cases of benign leprosy were noticed a short time before. The small cicatrix was the remains of a minor surgical operation (blood-letting), performed forty-eight years before, when not only was asepsis unknown, but no cleanliness was used, especially in minor surgery.

The course of leprosy, in itself slow, was in this case slower still, as degeneration is an unfavorable condition to the development of the infectious diseases in general.

W.

GENERAL SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

A Case of Empyema of the Frontal Sinuses

Trombetta (*Gaz. degli Ospedali*, July 11, 1897) reports a case of empyema of the frontal sinuses in a man, 45 years old, which is of special interest because of:

1. The uncommon width of the frontal sinus, which was divided in two by an osseous septum produced by a condensing periostitis.

2. The duration of the disease, eleven years.

3. The extent and intensity of the osseous lesions, ectasia and thinning of the frontal wall, perforation of the orbital roof, and probably extension of the process to the sphenoidal sinus.

4. Pronounced ocular symptoms, which are not common: great diminution of visual acuity, as well as of the visual field.

5. The difficulty of making a diagnosis as the symptoms of the disease pointed rather to the presence of a tumor. M.

Intestinal Anastomosis

Professor Ball (*Dublin Jour. of Med. Sci.*, July, '97), before the Section of Surgery, Royal Academy of Medicine, in Ireland, brought forward a new pattern of decalcified bone-ring, for end to end intestinal anastomosis. It resembled in shape a Murphy button, but was in one piece, with a deep groove round the circumference of sufficient width to allow the edges of divided intestine to be involutioned while keeping the peritoneal surfaces in contact, the groove being induced to accommodate any surplus intestine. The essential feature of its use is the primary introduction of a lacing suture loosely connecting both ends of bowel round their entire circumference; the ring is subsequently introduced by pulling apart two of the loops, and as the suture is tightened, it falls into the groove in the ring, drawing in and firmly uniting both edges of divided intestine, while the tips of the groove support the peritoneal surface of the intestine in apposition. An additional continuous suture passed around the entire circumference through the outer coats of the bowel only, where the peritoneal surfaces are in contact, completed the union. It was claimed by the originator as being the most rapid method as yet introduced, and, if properly done, leakage was quite impossible. By making the upper end larger than

the lower, the difficulty of joining a dilated gut above a stricture to a contracted gut below was obviated, the decalcified bone being absorbed also without difficulty. Four cases were recorded by the author of the use of this ring: One of resection of small intestine for a large gangrenous hernia, a second of resection of the upper portion of the rectum, and two of colectomy for malignant disease. One of the latter, a case of extensive cancer of the transverse colon, died suddenly seven days after operation, the other three making perfect recoveries. With regard to the fistula which had occurred in the case of the rectum, the author stated he had not as yet come across any appliance which did not occasionally produce fistula. He had seen a case in which a large fistula had been made by a Murphy button. He had not yet seen strictures caused by the use of a ring. L.

The Management of Hernia in Infancy and Age

J. F. C. H. Macready (*Treatment*, Vol. I, No. 14, Part II, p. 313) claims that the difficulties that beset the management of hernia are greatest at the two extremities of life. During the intermediate period, however unruly a rupture may be, we can resort to the operation for cure, but in infancy and age this assistance is often denied us.

A hernia in an infant has frequently this singularity, that it retires for days together and gives no sign. Wherefore Camper said: "A clever surgeon oftentimes denies the existence of a rupture, which shortly before has been clearly seen by another." It may be doubtful at the time of examination whether the child is ruptured. He cannot be induced to cough, but it is possible to make him sneeze, and nothing betrays a hernia so readily as a sneeze. If the protrusion does not then appear, and yet the parents are confident that a swelling in the groin has been seen, we must wait for a more propitious day.

On the other hand, the hernia may be fully down, and the difficulty may consist not in its detection, but in its reduction.

It is not advisable to use much pressure in attempting to return the ruptures of infants whose tissues are very thin and delicate.

A scrotal hernia in young patients is often very tense and immovable, and when accompanied by symptoms of strangulation, may give rise to some anxiety. And yet it is not a case of immediate action. This is indeed almost the only exception to the rule of surgery which says "prepare to operate directly symptoms of strangulation declare themselves." For after a while the

hernia will go back either spontaneously or by taxis. This abiding tendency to reduction which manifests itself in a few hours, renders the performance of herniotomy very seldom necessary in infants.

The bubonocoele of infants is easy to keep reduced, as very light pressure suffices for the purpose, and even when the rupture is scrotal it is better to try an ordinary truss till this is proved to be ineffectual. The majority of such herniæ improve under the continuous use of this instrument. But if the hernia persistently comes down a rat-tailed truss must be applied. When the hernia is double, but scrotal only on one side, still a double-tailed truss should be used, because a tailed pad on one side and an ordinary pad on the other makes the truss sit awry.

There is hardly any case in an infant so bad that it may not be restored to a condition of latency provided that instructions are given to the nurse or parent to keep the truss on night and day, and to place it high behind, just below the iliac crest laterally, and just above the pubic crest in front. The truss must be taken off two or three times a day, and the parts washed, dried, and powdered. In severe cases the hernia is apt to slip below the pad at first. The rupture must be pushed back as soon as it comes down, and the truss kept on night and day. Improvement will soon follow.

When two herniæ co-exist in infancy they are the inguinal and umbilical. It is not wise to provide a truss for both ruptures. For pressure on the umbilical is likely to increase the inguinal protrusion, which is by all means to be avoided. The umbilical hernia is certain to disappear without support before the age of adolescence.

When a hernia occurs in company with a misplaced testis, no alteration need be made on this account in the routine treatment. Misplaced testes are sometimes hypersensitive, but this peculiarity does not complicate the management of the case. A truss can be worn with comfort if care is taken to place the pad above the crest of the pubes.

With age comes loss of elasticity and of tonicity in the tissues, as well as a change in the shape of the figure, which affects the position of the truss, and thus herniæ become more difficult to manage. Whether the patient grows fat or lean his buttocks dwindle and become flattened. His truss slips down behind and thus tends to be horizontal. The lower edge of the pad in front is everted and the hernia passes down. As no truss will act effectively unless it is worn high behind, some device must be adopted to keep the truss in position, and this may

be done by a brace carried up from the back of the instrument over the shoulders and down around the flanks to the truss behind.

Again, the margins of the hernial opening are so lax and weak in the aged that the viscera readily escape past an ordinary truss. To prevent this, greater pressure is necessary. The pressure must be increased very gradually, and it will be found that at length quite a powerful truss can be comfortably worn.

If a hernia in an old person comes down under the truss, after the precautions already mentioned have been attended to, the next step will be to enlarge the pad both in area and in prominence. Also the inclination upwards of the pad, which every good truss possesses in some degree, should be increased. These alterations should suffice for difficult cases in general, but even these sometimes fail.

In every inguinal truss, whether supplied with a rat-tail or not, the iron-work of the pad should not pass down below the crest of the pubes, but when the hernia persistently escapes from the external ring, it may be held in check if the iron-work of the pad is carried down for half an inch or more so as to bring the lower part of the pad against the pubes itself. The effect of this is more comfortably obtained sometimes by putting under the rat-tail of the truss, as it descends over the pubes, a small flat cushion or mattress covered with chamois leather. When a femoral hernia persistently runs down along Scarpa's triangle, it may be stopped by attaching to the lower edge of the pad a narrow belt which is buckled round the upper part of the limb.

Inguinal and femoral herniæ in the same subject, if they occur on opposite sides of the body, can be treated by adapting the truss natural to each hernia to the respective sides of a double spring. In cases of inguinal and femoral hernia on the same side a femoral truss with a high belt must be used, and an addition made to the pad above, which should rise high enough to close the inguinal opening.

Whether the patient is young or old, very little improvement must be promised in a bad case unless the truss is worn day and night. P.

A Case of Foreign Body in the Vitreous

Dr. M. W. Zimmerman, in a communication to the Philadelphia College of Physicians, Section of Ophthalmology (*Med. and Surg. Reporter*), cited the case of a patient who was wounded by the explosion of a copper dynamite cartridge, January 18, 1890. The fragments entered the sclera of the left eye, 7 to 8 mm. to the nasal side

of the normal limbus. Blood filled the anterior chamber for two days. After absorption, the foreign body could be seen in the vitreous, opposite the base of the iris, on the temporal side. A drawing made at this time represents exactly its present position and appearance.

One year later there was a moderate hyalitis of unknown origin, and confined to this eye, ending in complete recovery. The patient was treated at this time by the late Dr. George T. Lewis, whose notes furnished the above facts.

The boy consulted the author in March, 1896, on account of accommodative asthenopia. A weak hyperopic cylinder relieved the symptoms and gave normal vision, which has continued. The presence and unaltered position of a piece of copper for seven years, without irritation, give interest to the case, and particularly in view of the opinion of Leber and others, that copper is more dangerous to the safety of the eye than other metals.

In this case the fragment has become lightly encysted and gives no metallic reflex, excepting in a very dark room, where it emits to the illumination of the ophthalmoscopic mirror a reddish tinge. G.

Cancer of the Breast Treated by Injections of Alcohol

William Yates, of Manchester, England (*Brit. Med. Jour.*, Sept. 25, 1897, p. 808), reports a case which shows the remarkable effect of injections of alcohol upon a carcinomatous tumor.

The patient, aged 58 years, first noticed a hard lump in the breast in June, 1896. This having steadily increased in size, began to ulcerate in January, 1897; the diseased breast was twice the size of the opposite breast, and had all the characteristic symptoms of a scirrhus carcinoma. In February, 1897, Dr. Yates began the injections of alcohol and distilled water recommended by Dr. O'Hass, using a mixture of 40 parts of absolute alcohol and 60 distilled water. Twenty-three syringefuls, each of 20 minims, were injected deeply into the tissues around the tumor and into the axilla in the enlarged glands. Between Feb. 20 and May 2, 19 injections, averaging from 22 to 25 syringefuls, were given; each sitting occupied about three-quarters of an hour. Considerable pain followed the injections, and lasted from half to one hour. After the second series of injections the patient noticed a change in the sensations in the breast, the shooting-down pains as well as the itching on the surface of the breast disappeared and never returned. During the sixth week the growth became decidedly

less; after this all parts of the breast and tumor rapidly shrank, until in May there was actually nothing left of the breast to be felt by the hand. There was still some edema in the injected area; the glands in the axilla could not be detected. The patient's general condition, however, deteriorated; she lost appetite and became slightly jaundiced. On May 16 examination showed unmistakable evidence of cancer of the liver.

No further treatment was employed. The patient died on June 10.

The breast and surrounding structures, together with part of the liver, were removed and examined by Dr. Delepine, Professor of Pathology, Owens College. Microscopical examination showed, in brief, the appearance of an atrophied, scirrhus carcinoma, with abundant stroma, with great proligerous activity. In conclusion the report suggested that the mammary tumor showed signs of marked irritation of the connective-tissue elements, and therefore of the epithelial cells, and that this might be fairly attributed in part to the action of the alcoholic injections. The similarity existing between the hepatic secondary growth and the primary mammary tumor throw a certain amount of doubt over this conclusion.

Dr. Yates, in conclusion, states that the clinical history showed clearly an enormous diminution of the cancer of the breast and a complete disappearance of the glands in the axilla. He believes that, had not the cancer in the liver developed, there would have been every prospect of a complete cure of the tumor in the breast. D.

The Advantages of the Trendelenburg Posture during All Operations Involving, Directly or Indirectly, the Cavities of the Mouth, Nose, and the Trachea

W. W. Keen (*Dunglison's Coll. and Clin. Rec.*, July, 1897) calls attention to the great advantages which may be secured by operating on the tonsil and on the adenoid growths in the pharynx in the Trendelenburg position. This position has also a much wider use in the removal of pharyngeal tumors, naso-pharyngeal tumors, extirpation of the tongue and upper and lower jaws, all operations involving the cavity of the nose, in cleft palate, hare-lip, epithelioma and other tumors of the lips, roof of the mouth, etc. The advantages of this position are: 1. There is little danger of an aspiration-pneumonia following the operation. 2. A preliminary tracheotomy may generally be avoided, a by no means slight advantage, since a tracheotomy-wound

is necessarily an infected wound, adding greatly to the dangers of the principal wound. 3. There is little difficulty in giving the anesthetic. 4. The mouth being gagged open, if the operation is intra-oral, the interior of its cavity can be seen very readily, especially if with the gag a tongue-depressor is used. If not, then the tongue is controlled by a ligature passed through it. The soft palate can be lifted by a blunt hook, and adenoids removed from the vault of the pharynx with the aid of sight as plainly as if they were on the face. The arches of the palate, tonsils, the posterior wall of the pharynx, the roof of the mouth, cheek, etc., can always be seen and reached with that certainty which accompanies sight. A forehead electric light is of great assistance. 5. There is no spitting of blood into the face of the operator, and therefore no interruption of the operation. The author also incidentally alludes to the use of a slight Trendelenburg position in the removal of the breast, Estlander's, Schede's, or other operations on the chest, in all operations about the shoulder, neck, or head. Soiling of the night-dress, underclothes, blankets, etc., is thus avoided. L.

Post-operative Intestinal Paresis From Nerve-Injury

Dr. E. McGuire, of Richmond (*Virg. Med. Semi-Monthly*, Oct. 22, 1897), calls attention to and reports several cases briefly of the foregoing, which came under his care. The importance of post-operative ileus from nerve-injury has not received the attention that it should, one reason is that it is generally confounded with some other variety, especially the septic form, which is often added to the former in a few hours if not relieved. The nervous distribution of the intestinal canal being derived from the solar plexus, its impressibility and sensitiveness are not excelled in any part of the body, and it is little to be wondered at that overstimulation from injury to the peritoneum is followed by a paresis of the muscular coat of the intestine to which the afferent or motor nerve is distributed. The wonderful inhibitory power of the nervous system over intestinal peristalsis is illustrated in the passage of a gall-stone or renal calculus, in omentumstrangulation, in ovarian compression, from blows on the abdomen, etc. McGuire believes that a large number of cases where death is attributed to post-operative sepsis or peritonitis, are either caused by or have their beginning from reflex nerve-injury. A bowel that has been exposed to the air for a long time until it has become blanched and dry, one that has been subjected to rough manipulation, or has had its

mesentery or coats torn or lacerated in separating adhesions, has, in the author's belief, sustained sufficient injury to lose, by reflex paresis, its functionary powers of absorption and peristalsis. Distension from reflex paresis may come rapidly or slowly. To a great extent, it depends upon the preparatory treatment of the intestinal canal prior to the operation. An exceedingly interesting, important, and at times, difficult matter is the differential diagnosis between the various forms of post-operative ileus. In every instance, the problem to solve is, whether we have to contend with a case of traumatic, septic, or mechanical ileus. Vomiting in post-operating traumatic ileus, if the effects of the anesthetic have passed off, does not occur as early as in the septic or mechanical variety, and in most instances is not excessive until the advent of sepsis. To the discomfort due to distension added pain is not severe. The distension of the abdomen is, usually, gradual and diffused over the whole surface, and not limited at first to a portion of the abdomen, as so often seen in mechanical ileus in its early stages. After extensive distension has occurred and septic paresis or peritonitis is added, which condition is usually, but not always, accompanied by a rise of temperature, there is no line of demarkation between these two forms. One gradually merges into the other, and the case rapidly progresses from bad to worse temperature. The pulse should be watched closely, as it often gives the first indication of impending complications by gradually increasing in frequency. Rapid operations, the avoidance of exposure and rough handling of the intestines, the repairing of all peritoneal injuries as far as possible, the prevention of traction on the intestinal walls, are all important in lessening the danger of a parietic bowel due to nerve-injury. Finally, peristalsis should be excited that an evacuation be secured.

L.

Large Ventral and Umbilical Herniæ in the Adult—An Improved Technique

A. Goldspohn, of Chicago (*Amer. Gyn. and Obst. Jour.*, Sept., 1897), refers only to those cases which present a distinct difficulty in the technique of the operation for radical cure, and that have recurred with extreme frequency after such operation. The features about the closure of an abdominal incision and its after-treatment, that conduce to the subsequent formation of a ventral hernia, are stated as follows:

1. A portion of cyst or abscess wall or of a pedicle, sewed into any portion of the incision. These objects hinder the union of individual layers in the wound; they atrophy

and retract, and leave a considerable aperture, which becomes closed only by skin united to a thin web of cicatricial new formation beneath it.

2. Voluminous capillary drains, especially when placed for septic conditions, when it cannot be removed in time to secure primary union, and a suppurating sinus ensues.

3. Closure of the incision by *en masse* sutures alone, when they catch the previously ununited margins of peritoneum, and draw them up so that they may become interposed between the inner edges of one or both recti muscles, and especially when separate and accurate apposition of the cut edges of the aponeurosis anterior to the rectus muscle—the principal bearing structure in this part of the abdominal wall—is neglected.

4. Suppuration in the wound, induced—when the operator and his materials are aseptic—by (a) the transit of septic elements removed from within; (b) insufficient cleansing of the skin before operation; (c) loose or contused tissue-particles left in the wound; (d) excessively heavy catgut or tendon, and its knots in the buried tiers of the wound; (e) excessive tension of the sutures; (f) secondary infection from without through capillary attraction, as in silk sutures, and (g) extravasations of blood between the layers, which occurs when suturing in tiers alone is relied upon, without any interrupted mass or tension sutures, that should be placed at intervals of two to three centimeters, should embrace not over one-third inch of the skin-edges, but much more of the recti muscles and their sheaths, and should pass through the peritoneal raphe, so that they will hold all the layers together.

5. Large abdominal drainage-tubes, especially when left *in situ* longer than forty-eight hours.

6. Sutures of non-absorbable material having high capillary attraction, which therefore require removal earlier than the tenth or fourteenth day, which, as a rule, should not be done.

7. Insufficient suturing, intestinal distension, and all strains, as at defecation or from an outcry, from persistent vomiting or coughing, or from interrupting the recumbent posture earlier than three weeks after operation.

8. Long and low incisions, particularly if the tendinous attachments of the recti muscles to the symphysis pubis are incised or mutilated.

9. Direct contact of intestines with the inner surface of the wound without the normal interposition of the omentum, which

should never be neglected, when possible, before closing the wound. In operating for ventral and umbilical herni, the problem is to overcome the retraction of the muscular walls, particularly in the domain of the internal and external oblique muscles, and to compel the general abdominal parietes to harbor an additional amount of viscera. The author's improved technique has reference to the transferring of this tension, accomplishing it fairly well in the cases operated upon, by double wire sutures, from 20 to 30 ctm. in length, placed transversely about 6 ctm. apart, anterior to the posterior blade of the sheath of each rectus after it has been opened, and being made to extend outward on each side through the lateral margins of these sheaths and through the fat and skin. From three to five of these tension-sutures are passed in the following manner: While one or two fingers of the one hand are introduced into the abdominal cavity, and held against the adjacent parietal peritoneum, a long, straight, blunt-pointed pedicle needle, having an eye that opens toward the side, is passed from one of the wound margins outward laterally between the rectus muscle and the posterior blade of its sheath, from which it emerges at the linea semilunaris and continues outward through the fat and skin. The doubled wire is then hooked at its closed end into the eye of the long needle, and is drawn by it into the wound. The handle of the needle is then turned in the opposite direction, and its point carrying the wire is shoved through on the opposite side of the wound, between and through the same structures as on the side of beginning, the finger of the other hand here also standing on guard within the abdomen, that the posterior blade of the rectus sheath, the transversalis fascia and peritoneum, at least, will remain unimpaired, to shield the abdominal viscera from contact with the wires. When the wire has been passed it is unhooked from the needle and its ends are twisted on each side over a button of iodoform gauze or of lead with gentle tension, after the needle has been withdrawn. When the required number of these tension-sutures have been placed, they are all tightened over their buttons enough to bring the wound surfaces near each other, but not to come in contact, so that the peritoneum and posterior blade of the rectus sheath can be readily sutured by a continuous catgut ligature, either alone or together, behind the wires. The peritoneal cavity is now closed and the wound may be irrigated if desired, and then the anterior rectus fascia is united in front of the wires by a substantial catgut thread, that is prepared to hold at least two weeks. This is

made to grasp this firm fascia and muscle beneath it. When this tier of sutures is completed, usually the final degree of tension is placed upon the wires, so that the catgut sutures which have been introduced are relieved of nearly all tension, and the buttons on the wires sink well into the skin. The skin and subcutaneous fat may then be sutured by interrupted silkworm-gut sutures, with or without a drain beneath, resting upon the second tier of catgut sutures. The author suggests, however, leaving the skin open to granulate when the fat is very thick, as it is in most of these patients, or where it has been necessary to dissect up this fat layer laterally for some distance off from the widened membranous expansion of the linea alba, in order to make the receded recti and their sheaths accessible for suturing. Two plates, illustrating the author's technique, are added to the text.

L.

Extensive Septic Thrombosis of the Lateral Sinus Following Influenza—Operation—Recovery

The following case is reported in *The Lancet* (Jan. 1, 1898, p. 31). The patient, a man 68 years old, had an attack of influenza five years previously. On recovering from his illness he found that he was deaf on the right side; he had slight pain in the right ear, together with a cold feeling over the bone behind that ear. Some months later he had a discharge from the right ear, and this was followed by a swelling over the right mastoid. The swelling was incised, a quantity of pus escaped, and the wound healed nicely; but while the incision healed, the ear continued to discharge and he suffered from attacks of severe pain over the right side of the head. Once, while suffering with one of these attacks, he became unconscious and remained so for two days; then a quantity of pus escaped from the auditory meatus and he regained consciousness. On examination he was found completely deaf on the right ear, and the right tympanic membrane was thickened and perforated.

After the usual preparation, an incision was made over the mastoid through the scar of the former incision, the intention being in the first place to open into the tympanic or mastoid antrum. On separating up the peritomeum, however, a small area of necrosed bone was found which, on being fully exposed, was seen to correspond with the level of the lateral sinus. A portion of this bone was then removed, and as soon as the sinus was opened a quantity of very foul-smelling, thick, purulent material escaped. The opening was enlarged by the

removal of all necrosed bone, and the exposed sinus was thoroughly cleansed. A great part of the contents was of a curdy character, with broken-down blood-clot, which had to be scooped out. The tympanic antrum was then thoroughly cleansed, and the sinus, antrum, and the middle ear were washed with carbolic lotion and packed with iodoform and boric gauze. The patient made a rapid recovery. During convalescence his temperature was somewhat subnormal. All his symptoms disappeared, and during the ten months which have passed since the operation he has been perfectly well.

At the conclusion, Dr. Walker Downie, who had charge of this case, says that several years ago (in 1892) he drew attention to the frequency with which epidemic influenza affected the middle ear and the neighboring cavities. His experience was that the aural affection came on suddenly during convalescence and that the inflammatory process was of rapidly destructive character. This case is published as an illustration of this fact, and also as an instance of complete recovery following an extensive septic thrombosis of the lateral sinus.

R.

A Spontaneous Cure of Senile Cataract

M. Chevallereau reported to the Paris Ophthalmological Society, at its session, July 6, 1897, the following case, as recorded in *Recueil d'Ophthal.* (No. 8, p. 484-9, 1897).

The subject, a physician, 80 years of age, consulted the doctor for failing vision of the left eye, the right being normal except for two dioptries of hypermetropia. The cataract of the left eye was complete after three months of rapid loss of vision. Shadow of the hand was perceived, but fingers could not be counted. There was no inflammation in the internal parts of the eye which were healthy. Oblique illumination showed a very contractile pupil and a pearly-white lens. No ray of light reflected by the ophthalmoscopic mirror would penetrate the lens, even at its periphery. Light-perception was very good, and the visual field, tested by reflection from a plain mirror, was normal. The physician was in excellent health in spite of his age, and had a large practice. His only complaint was a hypertrophied prostate and cystitis, for which he catheterized and gave himself douches of boric-acid solution. His urine, analyzed ten years before by Yvon, contained albumin but no sugar. Operation was postponed on account of the patient's practice. Two months later he presented himself with vision much improved. The lens was no longer pearly, but transparent, except at a

central point of opacity. The eye was hypermetropic 2.50 D. With + 5.50 D, he read the smallest test types. The presence of the hypermetropia excluded morgagnic cataract. Every care had been taken to exclude sources of error. H.

New Plastic Operation for Ectropion Following Enucleation

Prof. H. True (of Montpellier) contributes to *Arch. d'Oph.* (No. 10, pp. 593-9, 1897) a new method of operating, so as to make the lids retain the artificial eye when it has begun to expel it on account of cicatricial contraction of the inter-palpebral space.



Fig. 1.—Ci, eye-lashes. S, skin. O, orbicularis. II, Incision in the lower lid. T, tarsus. C, cellular tissue.

Fig. 2.—Ci, eye-lashes. S, skin. C, connective tissue. O, orbicularis. T, tarsus. 1, 2, 3, suture.

He explains the cicatricial contraction as due to irritation of the mucous membrane by the artificial eye. To the same thing he assigns the increased lacrymation and catarrhal secretions which accumulate and linger in the depression that receives the artificial eye. Cicatricial narrowing of the pocket, which contains these inflammatory exudates, gradually throws the lids out

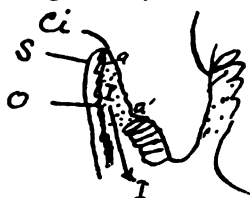


FIG. 3.

Ci, Ciliae. S, skin. O, orbicularis. II, incision. a a', cicatricial tissue.

and finally permits the artificial eyes also to escape.

It is to relieve this condition that the author has devised his new operation. Splitting the lower lid into two laminae, the mucous membrane and the tarsus constituting the inner lamina and the skin orbicularis, and connective tissue the outer, the latter is pulled up above the upper margin of the former so that the upper margin of the outer lamina forms a convex curve and the upper margin of the inner lamina a concave curve from the inner to the outer canthus the median distance between the two margins being about 1 ctm. If this distance happens

to be just right, and the two laminae are sutured together thus, and the interval between the two margins is allowed to cicatrize, enough contraction will take place to cause compensatory entropion approx-



FIG. 4.

L L, skin-flap from temporal region.

imately sufficient to overcome the ectropion to be corrected, and will give besides a flange-border just enough turned in to hold the artificial eye.

But if there is danger of this cicatrix contracting too much, another step is taken. A

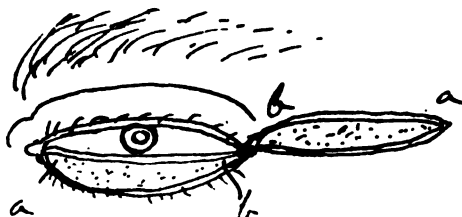


FIG. 5.

a b, flap of skin brought in from temporal region.

skin-flap is dissected up external to the outer canthus from the temporal portion of the skin of the face, which is pushed through a skin-commissure at the outer canthus and made to cover the denuded portion of the outer palpebral lamina so that the skin-surface is directed backward toward the orbital surface of the artificial eye. In this

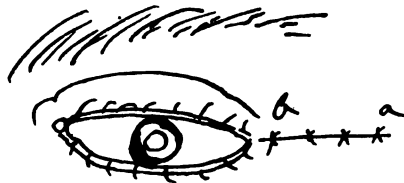


FIG. 6.

a b, line of sutures in closing temporal incision.

position it is sutured and held down centrally by a suture passing outward through the anterior skin-surface of the palpebral lamina.

The last step consists in bringing together by sutures the skin from which the

skin-flap had been cut. Healing takes place kindly and the new interior surface of the lower lid forms a proper cushion for the artificial eye. The author gives account of two cases treated in this way with perfectly satisfactory results.

The accompanying diagrams will aid in following the various steps. H.

Nephrotomy for Complete Anuria in a Woman with a Single Kidney

Drs. Chevalier and Maucclair have reported the following case at the last meeting of Association Française d'Urologie (*La Méd. mod.*, Vol. VIII, p. 712). The patient, 36 years of age, had begun to show, ten years ago, symptoms of pyonephrosis. After various modes of treatment with but insignificant relief, right nephrectomy was performed six years ago. An immensely distended kidney with large purulent pockets was removed. One year after the operation symptoms of pyonephrosis of the other kidney began to show themselves. At last anuria supervened. After the anuria—absolute—lasted for four days and the uremic symptoms became threatening, lumbar nephrotomy was rapidly performed. The kidney was found enormously distended. The convex border was incised, and about a liter (one quart) of urine escaped. Convalescence was uneventful; her condition improved from the very day of the operation, and she is now perfectly well, except for the persistent fistula, which it is impossible to close. Not a drop of urine passes through the ureter: it all escapes through the fistula. R.

Vermineous Abscess Due to Oxyures

Dr. Froehlich (*Rev. Mens. des Mal. de l'Enfance*, No. 11, 1897) relates the following case:

A boy, 11 years old, came under his observation at the hospital at Nancy, with a history of nocturnal itching at the anus of several months' duration and complained of pain at the same place. On examination a few ulcerating spots were seen on the mucous membrane of the anus, and a round tumor, the size of a walnut, in the intergluteal fold, about 3 cm. from the anus. The upper part of the tumor was red, and by bringing it between two fingers fluctuations could be perceived. Two oxyures were found at the anal orifice. An incision in the tumor revealed a collection of pus filled with a mass of lively worms. No connection could be traced between the anal mucous membrane and the cavity of the tumor. The wound was treated antiseptically, and the boy received a vermifuge.

He recovered after sixty days. An examination of the boy after being discharged from the hospital showed that all the hemorrhage and ulcerating spots upon the anal mucus membrane had disappeared.

Three days after this boy left, another patient in the same ward, who had been operated upon for a tumor at the rectum, presented several worms in the wound. Upon inquiry it was learned that this patient's wound had often been touched by the boy while helping to apply the dressing. S.

Balsam-oil Dressing

The following surgical dressing of Prof. Van Arsdale is being used with good success at the Good Samaritan Dispensary. A mixture of the following:

Balsam of Peru.....5%—24 drops
Castor-oil...95%—1 oz.

is placed on one side of a bunch of absorbent gauze and placed with the oily side over the wound. The gauze is covered by rubber tissue and a muslin bandage is applied, and to keep the patient or friends from removing the dressing a few turns of a moistened starch or crinoline bandage are taken. V.

Radical Cure of Hernia in Nurslings

Froelich (of Nancy) sums up his experience, *Jour. de clin. et de Thérap. Inf.* (No. 45, p. 893, 1897), as follows:

In most cases of inguinal hernia in children under 2 years, a suitable bandage is enough; but after 2 years operation is necessary for radical cure.

If in the two first years the hernia increases in spite of the bandage, the operation should be done at an age to prevent the physiological detriment which a large hernia causes. The mortality is only 4 per cent., the relapses 6 per cent.

He sutures the abdominal wall and the neck of the sack without opening or extirpating the sack.

Broca agreed with the advisability of the radical operation, even in children under 2 years of age, because of the successes obtained in fifteen out of eighteen cases where, taxis having failed, he was forced to do the operation to relieve strangulation. In eight of these cases the children were under 6 months. He operates under the conditions which Froelich indicates, i. e., where the hernia increases in spite of the bandage; but he excises the sack. Out of 117 operations for hernia on ninety-eight subjects under 2 years, he had but two deaths, and these were from intercurrent conditions. He opens the sack in less than ten minutes. H.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Resuscitation of Still-born Children

Dr. Andelbert, *Jour. de Méd.* (Sept. 12, 1897), describes a new method of resuscitating premature infants. The operator sits in a low chair with his knees crossed, and the child is laid on its back across the upper knee, so that the head and shoulders project to the right and the legs and pelvis to the left. The head and neck are supported by one hand, while the lower limbs are grasped with the other. The head and legs are both drawn downward, so as to put the child's body in an opisthotonic position. The thorax is thus made to project and the diaphragm descends. The head is then raised up so that the chin comes in contact with the sternum, and at the same time the legs are also raised and the flexed thighs pressed into the abdomen. These two movements, which represent inspiration and expiration, should be executed gently and regularly from eight to ten times a minute. S.

Seven Cases of Pregnancy Complicated by Chorea

These cases have been observed by Dr. W. R. Dakin, *The Practitioner* (Vol. LIX, No. 6, 1897), within the last six years. The moment of appearance of the spasms in each case was some time during the first six months. All the patients had mitral bruits but one, and in this one it was found at the post-mortem that the mitral valve was affected. None of the cases made any attempt at spontaneous abortion. In only four of the seven cases were the spasms very severe, and this observation goes to show that chorea occurring during pregnancy may, contrary to the general belief, in a fair proportion of instances, be a mild disease. All but one case were maniacal at one time or another. In two cases it did not appear till after delivery. The patients who were maniacal before induction became sane very soon after delivery, relapse taking place for a few hours in two of them.

The choreic movements were not so easily affected by emptying the uterus. In only one case, in which the spasms were so severe that induction was practiced for the chorea alone, did they subside at all rapidly. The movements were in some degree diminished in all by induction of labor. This effect contrasts with what is observed in eclampsia, where induction nearly always puts an immediate end to the convulsions. The induction of labor or abortion gives

the woman, in a severe enough case, the best chance of safety. Drugs have little or no influence while the woman is still pregnant, unless the attack is a very mild one. This was proved in all the cases, for attempts had been made to relieve the spasms with bromides, arsenic, and morphia before they came under the author's care. Chloroform was useful as long as the patient was anesthetized, but only in a few cases did its effect in quieting the woman last much beyond the recovery of consciousness. The influence of hyoscin after delivery over the chorea and mania proved superior to that of morphia.

The temperature in the two fatal cases rose to 106°F. and over just before death. The rise was sudden, taking place only about four hours before the patient died. The cause of the hyperpyrexia is difficult to explain. Since this "delirium of the sensori-motor ganglia," as Dr. Broadbent has called it, spreads to the higher centers and causes mania, it is possible it may also spread down to the medulla and affect the heat-center, supposing such a center exists. The suddenness of the rise of temperature in some cases must be remembered, and the universally fatal result of this. In all severe cases the temperature should be taken every hour, and attempts at its reduction made as soon as it rises above 100°F.

Mania must never be overlooked, however slight it may be in the beginning, and the induction of labor or abortion must be undertaken at once when the patient's mind begins to wander, however mild the actual spasms may be at that time. Induction must also be undertaken if the spasms are severe enough to keep the woman awake at night. The manipulations necessary must be performed under anesthesia. S.

The Treatment of the Chronic Infected Case in Gynecology by the General Practitioner

By the chronic infected case Dr. D. Berry Hart (*The Practitioner*, Nov., 1897) means that common run of cases which present the following history: Not well since the last labor or miscarriage; at present occasional pains in back (over sacrum), at the side, or below the left breast; menorrhea and leucorrhea; bimanual examination shows more or less laceration of the cervix or at least a patulous uterine os, usually retroflexion and enlargement of the uterus, and some inflammatory thickening in its neighborhood, either in the peritoneum, cellular tissue, ovary, or tube. In these cases there are multiple lesions, and all the symptoms cannot be blamed upon one cause, such as the

lacerated cervix or displaced uterus, but they all come from a minor septic or sapremic attack after labor or neglected abortion, and so the above name has been adopted. The leucorrhea and menorrhagia are due to an endometritis, while the pain is probably caused by the secondary cellulitis or inflammatory thickening of the appendages. The retroflexion is an accidental complication of such cases, and not a factor in producing symptoms unless there is also present some downward displacement. The clinical cause of these cases being a neglected abortion, or labor in which there was difficulty in the third stage, there is a large field for prophylaxis in their treatment. A lacerated cervix may be neglected if small, but should be amputated if hypertrophied. Many women suffer from what they are told they have, so it is better to be indefinite in telling them their condition. When menorrhagia and leucorrhea are present, with inflammatory thickening, they are best treated by a thorough curettement and application of pure carbolic acid. When menorrhagia and leucorrhea are not marked, but the condition is mainly of minor inflammatory thickening, cotton-wool tampons, with ichthyol and glycerin, and hot douches daily are most satisfactory. The retroflexion, unless complicated by prolapse of the pelvic floor, is best left alone. Pessaries are seldom of value, vaginofixation is dangerous, and ventrofixation fixes the uterus in a false position. The diet, sleep, exercise, occupation of time, and the bowels should be regulated. Finally, some cases may require removal of the appendages or even hysterectomy. G.

Malignant Tumor of the Uterus Treated with Toxins of Erysipelas and the Bacillus Prodigiosus

Dr. Jones (*Ar. de Gine. Obs. Pat.*, No. 20, 1897) cites the case of a woman who presented an inoperable malignant tumor of the uterus, and in whom the above treatment was used. The histological examination of the tumor proved the clinical diagnosis. The patient was considerably debilitated from repeated hemorrhages, and was profoundly anemic and emaciated. Under the influence of the treatment with toxins the uterine discharge became abundant; she regained her strength without any febrile reaction. On two occasions the injections, made near the uterus, produced symptoms of collapse.

There had been so much atrophy of the organ that it was thought that menstruation would not occur, nevertheless the menstrual function was again re-established. One year later the patient remained consid-

erably improved, weighing ten pounds more than her normal weight, is vigorous, eats and sleeps well, and she is entirely free from pelvic pain. Indeed, the patient has resumed her avocation. The toxins of erysipelas employed were filtrated. The doses injected varied from 2 minims to 30 minims daily. After the first injection of 19 minims into the vaginal wall there occurred grave symptoms consisting of collapse, chills, and elevation of temperature to 40° C.

Vomiting in Pregnancy

Dr. Page, in *The Med. Times* (Vol. XXV, No. 10, 1897), says of vomiting in pregnancy that the first indication of nausea or lack of appetite, not to say vomiting, should warn a prospective mother that she is getting a little ahead of her stomach, so to say; and then, all she has to do is simply to sip a few swallows of moderately hot water occasionally during the day, fasting, to make short and easy work of restoring the balance to the system. He has never known a single case of failure when this plan has been intelligently carried out. It may be necessary to skip only a couple of meals, or it may be necessary to fast two or three days. Wait until the patient is again really hungry before giving food. Meanwhile it will be necessary to give from a quart to three pints of soft, warm water daily to fulfill the requirements of the system. S.

Major Lesions of the Genital Tract in the Puerperium

Dr. S. Marx, in *The Med. News* (Vol. LXXI, No. 23, 1897), believes that grave lesions of the genital tract are not common. When they do occur, it seems impossible in most cases not to associate them with errors in technic on the part of the physician in charge. Spontaneous ruptures of the uterus are very rare, but in them, as a rule, there has been so marked a degeneration of the uterine tissues preceding the accident, from either a fatty or cancerous process, as to stamp them as eminently pathologic. He observed two cases of rupture of the uterus and four of complete or partial tears of the vagina and rectum, all due to unskillful management of labor, and he therefore warns the inexperienced not to depend solely upon his own judgment whenever difficult labor is dealt with. The most difficult problem in midwifery is to determine clearly and positively the indications for interference or non-interference. The former is too frequently postponed to such a time as to place elective and successful operations out of the question. When well-defined indications are present all hesitancy and fear should be banished and the neces-

sary procedure instituted promptly and diligently.

Acute, constant, dull aching, boring pain in the abdomen, not the alternating relaxing and contracting phenomena of labor, but a tetanic contraction which is so characteristic of one form of uterine exhaustion or irritability; in still more severe cases the presence of the contraction-ring, with a corresponding thinning of the entire lower uterine segment, extending at times as high as the umbilicus; the sign that by abdominal palpation the outlines of the child may be mapped out with alarming distinctness; a rise of temperature with a corresponding or progressively more rapid pulse-rate are indications to terminate the labor at once.

If the os is not sufficiently dilated to permit of the application of forceps, manual dilatation, or the Dührsen operation, should be performed—the latter procedure in very urgent cases only, and then care must be taken to make the incisions complete from the cervico-vaginal junction downward, neither more nor less, in order to fully dilate the os by artificial means. The writer prefers version to the high-forceps operation excepting in cases of threatened or already uterine rupture. Where it is presumed that the child has already been suffocated, the perforator is the instrument of choice. Special attention must be paid to the application and manipulation of the forceps. Faulty manipulation, as direct forward traction, always predisposes to slipping of the blades, and the operator may consider himself lucky if serious lesions do not result. The author thinks that traction can never be made too far backward, for if the head does not follow such traction the direction of the blades may always be gradually modified so as to bring the traction a little further forward each time. If the attending physician is at a loss to know exactly in what direction to institute the traction, it is a good plan to apply the blades, without chloroform, and let the woman have severe pains, then to note the direction which Nature causes the handles of the instrument to assume. This proves the proper axis of traction, and can be at once and safely followed. The ideal forceps operation to-day is performed with the typical axis-traction instrument. The direction of correct traction is indicated by the handles of this almost intelligent instrument. But the objections to its use are its cost, and, what is more important, its dangers when performed by inexperienced hands.

When an impacted shoulder is a complication, it would seem preferable to at once detruncate the head regardless of whether the child is dead or alive; since here by

performing a forced version, the mother is subjected to the most awful risk of either rupture or increasing the lesion already present. In weighing the chances between a forced version of an impacted, living baby and a Cæsarean section, it would appear that the chances for the mother and child will be best conserved by the latter operation. Where the child has wholly or in great part escaped into the peritoneal cavity, celiotomy is, in the author's opinion, the best procedure. S.

Acetonuria as a Sign of Death of the Fetus

Dr. Knapp (*Centralblatt. f. Gynaekologie*, No. 16, 1897) considers acetonuria significant of the death of the fetus. He found it in pregnant and parturient women, whose gestation has subsequently ended in the birth of a dead child. O.

Differential Diagnosis of Ovarian Cystomata

J. H. Richmiller (*Am. Gyn. and Obstr. Jour.*, October, 1897) presents in detail the characteristic differential diagnostic points between ovarian cyst and some of the more important maladies which simulate this neoplastic growth in its various phases of development, Olhausen's division of all tumors into three classes being adopted:

1. Those distinctly intra-pelvic.
2. Those occupying the lower part of the abdomen.
3. Those which extend to the epigastric region. L.

The Administration of Phosphate of Strychnia during Gestation

Dr. W. B. Dorsett (*Amer. Jour. Obs.*, Oct., 1897) recommends this drug given in the form of a gelatin-coated pill, 1-100 grn., the dose to be gradually increased to 1-25 grn., if deemed advisable. A good appetite and assimilation are obtained in the general weakness and debility of the anemic, constipation is relieved, and, in short, the patient is built up and placed in a good condition to pass through the ordeal of labor; the uterus contracts promptly, after the third stage of labor, and the use of ergot is entirely dispensed with. The writer states that he has not used ergot for five years in his obstetrical practice. If he finds it necessary to use the forceps the patient is given a hypodermatic injection of 1-30 grn. of sulphate or phosphate of strychnia as soon as the anesthetic is commenced, but no ergot is ever used. After the continuous use of the phosphate of strychnia the uterus contracts promptly after the second stage of

labor, and in many cases the application of Credé's method of expression of the placenta is not needed to bring it away, and no post-partum hemorrhages have occurred. The often-observed chilliness or rigors, which in the majority of cases follow labor, have been noticed in but few cases. These rigors, which are so common after labor, and which receive but scant mention in the text-books, are nothing more nor less than surgical shock. This is obviated by the prophylactic—strychnia. The author finds that the phosphate of strychnia acts better as a laxative than either the sulphate or nitrate.

G.

Pregnancy Complicated by Kidney-affections

E. H. Douty (*Am. Jour. of Gyn. and Obst.*, Vol. XI, No. 2, 1897) concludes that albuminuria appearing primarily in pregnancy may arise from:

1. Pressure on the renal veins or other vessels.
2. Pressure on the ureters.
3. Increased work of the kidney due to the excretion of the waste products of the fetus and enlarged uterus.
4. The generally increased arterial tension which is usual in pregnancy.
5. A reflex influence starting from the pregnant uterus as a source of irritation, and disturbing the circulation or the secretions of the kidney as that of the salivary and of the thyroid glands are in some cases disturbed.
6. The pressure of a specific germ.

In cases where the kidney-trouble is of long standing and the albuminuria amounts to one-third, together with some edema, pregnancy should be at once terminated for the woman's sake, especially since the chance of a living child is very small, as premature labor almost certainly occurs. When, however, there is merely a temporary disturbance of the kidneys and their vascular system, the chances for mother and child are considered better and pregnancy may be allowed to proceed.

S.

Sacculation of the Pregnant Uterus Following Ventro-fixation

Dr. Lucia E. Hinton reports a case of the above (*Am. Gyn. and Obst. Jour.*, October, 1897), the patient being 31 years of age, married ten years; a complete prolapse of the uterus coming on a short time after marriage, followed by pregnancy twice within two and one-half years. She was operated upon later for the prolapsus, ventro-fixation being chosen. Subsequently, pregnancy occurred, and upon examination, the fundus of the uterus was found firmly at-

tached to the abdominal wall. The adhesions which were formed by the operation had not yielded in the least, and the whole anterior wall of the uterus was so closely applied to the abdominal wall that the cervix rested against the pubis with the os but little above the meatus urinarius. At term, the os being slow of dilatation, delivery was forced, the child, a ten-pound boy, being still-born. In connection with the history of the case, the following features are offered:

1. That it was entirely analogous to the infrequent cases of posterior sacculation of the uterus resulting from impaction of the fundus under the sacral promontory.
2. That while those cases are said to be always reducible, this was irreducible, since it was caused by the firm adhesion of the uterus to the abdominal wall.
3. That while cases of posterior sacculation can be diagnosed by examination, this case could not be so diagnosed, since the child was entirely beyond reach from the vagina.
4. That every contraction of the uterus compressed the neck of the child, encircled as it was by the cord, and thus endangered its life while it was apparently safe, being in the abdomen and freely movable.
5. That this freedom of movement was entirely deceptive, since it was simply a balancing to and fro of the body upon the uterine septum, after the manner of any solid body floating in a liquid with but a single point of support.
6. That the bladder and its attachments were drawn up into the sulcus of the uterus, thus subjecting it to the danger of rupture.
7. That the child passed meconium freely sixteen hours before its death.

L.

Post-partum Eclampsia

Dr. Maygrier, *Jour. de Méd.* (Aug. 8, 1897), reports the following case: The labor was normal and unaccompanied by any post-partum hemorrhage. Eight hours later the patient, a primipara, began to complain of pain in the head and stomach. Soon a severe attack of convulsions set in. The urine was found to contain albumin. Five attacks took place within seven hours, when the patient finally passed into a condition of complete coma, with deep cyanosis, rapid breathing and pulse. Stimulants hypodermically and oxygen by inhalation remained without avail. Death occurred sixteen hours after delivery. The writer points out that inasmuch as eclamptic convulsions may persist, or even begin, after delivery, the plan of hurrying on labor with the object of checking the attacks need not be universally recommended.

S.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL.

WILLIAM FANKHAUSER, M. D., WILLIAM J. ROBINSON, M. D.

Tolerance of Creosote

C. W. Graham, L. R. C. P., instances in *Brit. Med. Jour.* (Jan. 15, 1898, p. 144) the following astonishing tolerance for creosote. The patient was a man of 35 years with phthisical history and a condition of pulmonary tuberculosis for twelve months. Commencing with 1 minim of creosote three times a day he rapidly increased the dose to 340 minims a day at the end of the first month. For two and a half months he continued to take 3 and 4 fl. dr. each day while distant at Arôsa, and returned thence completely restored to health. After his return he continued to take 100 to 140 minims a day as a prophylactic. H.

Comparative Study of Some Hypnotics

Dr. Wilcox (*Post-Grad.*, November) says that paraldehyd is probably the strongest hypnotic we have, and after it come chloral-amide, pellotine, and trional, in the order named. As regards the rapidity of action, pellotine stands first, then come paraldehyd, chloralamide, and trional, in the order named. As regards the duration of the sleep produced by moderate doses, trional stands first, then come paraldehyd, pellotine, and chloralamide. As regards the danger of contracting a habit, paraldehyd is the most dangerous, chloralamid is next, and there is hardly any danger of contracting the pellatine habit. For continuous administration, chloralamid is the most advisable, then comes pellotine, then paraldehyd, and then trional. R.

Eucaine

F. C. Wallis (*St. Bartholomew's Hosp. Jour.*, August, 1897) has used eucaine A for some months past in St. Mark's and Charing Cross Hospital in nine removals of tumors, forty-four rectal operations and two abdominal operations. The results of his experience with eucaine are most satisfactory. He has used a solution of 4 per cent., and he has never seen any signs of toxic effects even when a considerable amount has been used. This percentage he found quite strong enough to produce absolute local anesthesia for any small operation. He has in a large ischio-rectal abscess injected from $3\frac{1}{2}$ to 4 drachms subcutaneously without ill effects. The average amount required for a small operation was from 1 to $1\frac{1}{2}$ drachms of the 4-per-cent. solution. If the desired anesthetic effect is not pro-

duced by 1 drachm of the drug, the second or third can be used with every confidence as to the safety of it. He frequently used it in the out-patient room for abscesses, and found it most useful, both in hospital and private work, for removing the redundant skin which is sometimes left after operations for hemorrhoids. He has no after-effects to record.

Urticarial Pruritus

Chloral Hydrate.....40 grn. (2.6 gme.)
Cocain Hydrochlorate...75 grn. (5 gme.)
Cherry-laurel Water....1 fl. oz. (30 c.c.)
Distilled Water.....8 fl. oz. (240 c.c.)

For external use.

Whooping-cough Mixture

Tincture Belladonna....2 fl. dr. (7.5 c.c.)
Tincture Valerian....1 fl. dr. (3.75 c.c.)
Tincture Digitalis....1 fl. dr. (3.75 c.c.)

For children under 5 years of age 5 to 10 drops should be daily administered, increasing within one week to from 30 to 60 drops daily, in divided doses.—*Med. News.*

Laryngismus Stridulus

Potassium Citrate.....80 grn. (5.2 gme.)
Powdered Ipecac.....3 dr. (11.5 gme.)
Tincture Opium.....16 min. (1 c.c.)
Syrup.....3 fl. dr. (11.5 c.c.)
Distilled Water.....4 fl. oz. (120 c.c.)

Teaspoonful every hour.

Holocaine in Ophthalmology

R. Masselon, in *Archiv. d'Oph.* (No. 10, pp. 599-601, 1897), gives the result of his trial of this new anesthetic at the ophthalmological clinic of the Hotel Dieu, Paris. The observations were made on both healthy and inflamed eyes, and the results, compared with those from cocaine. Where both eyes were equally inflamed holocaine was used in one and cocaine in the other; where only one was inflamed these were used one on one day and the other on the following.

The holocaine caused smarting and abundant flow of tears, followed by commencing anesthesia in two minutes, complete in five minutes, which lasts about two minutes longer. Cocaine does not irritate so much, anesthetizes more slowly and continues the anesthesia longer.

The effect on the pupil produced by cocaine, both as to dilatation and tonus, was not observed with holocaine. Again, anesthesia of the cornea was never complete with holocaine even after repeated applications of the solution, when the eyes were in a state of inflammation, no matter what strength of solution was used. The corneal tissue, however, was not altered by even strong solutions of the holocaine, nor was

the pupil dilated or the ocular tension increased.

The advantage over cocaine, then, lies in the fact that it does not affect the accommodation nor the intra-ocular pressure, whilst the anesthesia is not very different from that of cocaine in other respects. H.

Petroleum in Winter Coughs and Phthisis

Dr. J. D. Albright, of Pottsville, Pa., in the January (1898) number of the *Southern Practitioner*, says that he has had excellent results in treating coughs and colds with petroleum made into an emulsion with hypophosphites. He claims that it does not disturb digestion, and he has found it to be antiseptic, antispasmodic, stimulant, nutrient, and expectorant. He says: "By its use the cough is at once ameliorated, the perspiration is diminished, the patient is strengthened, thereby enabling him to expectorate the loosened mucus with greater ease; fetid odors are made less so, and frequently the consumptive steadily improves and regains health." He thinks that he has found it curative in the first stages, of consumption, and that every physician should give it a fair trial. He tells us that in the "vague and ill-defined chest-pains of those recovering from an attack of pneumonia, pleurisy or grippe," it is especially indicated. He further asserts that the "improvement in digestion, which always follows its use, is one of its most prominent features, and it is therefore adapted to all forms of mal-nutrition in old or young." The emulsion he used was Angier's petroleum emulsion, made by the Angier Chemical Company, of Boston, Mass. The manufacturers give the following as its exact formula:

Purified Petroleum..... 33½ per cent.
Hypophos. Lime..... 7 gr. to oz.
Hypophos. Soda..... 5 gr. to oz.
Benzoate Sodium, a trace.
Emulsionizing agents.
Glycerine, a a. q. s.

Eserine in the Ophthalmia of the New-born

According to Dr. O. Eversbusch (*Sem. méd.*, XVII, p. 58), eserine (physostigmine) has the effect of diminishing (frequently in a surprising manner) the suppuration in ophthalmia neonatorum. The method of treatment followed by him for the past seven years is as follows:

When no corneal ulcer is present, he refrains from touching up the palpebral conjunctiva with silver nitrate. He removes the pus every two hours by means of absorbent cotton, washes the eye with a 0.7-per-cent. sodium-chloride, or 3-per-cent.

boric-acid solution, and instills a drop of a 0.25-per-cent. eserine-sulphate or eserine-salicylate solution. When only one eye is affected, the author instills into the other one a drop of a 2-per-cent. silver-nitrate solution, as a preventive, and applies borated vaselin to the root of the nose.

When the cornea is ulcerated, the conjunctiva is painted with a silver-nitrate solution, but besides this, instillations are made, three or four times daily, of a 0.5-per-cent. solution of eserine or of a 0.1-per-cent. solution of scopolamine. Finally, one drop of a mixture of chlorine-water and two or three parts of distilled water are dropped into the eye.

On account of the danger of chills the child must not be bathed as long as the flow of pus is abundant. Close watch must be kept over the digestive organs, and the child must be properly fed, because any unfavorable condition in this direction immediately induces a recrudescence of the ophthalmia. F.

Nervine Tonic

Asafetida..... 1 dr. (4 gme.)
Arsenous Acid..... ¼ grn. (0.03 gme.)
Strychnine Sulphate... ¼ grn. (0.03 gme.)
Extract Sumbul..... 30 grn. (2 gme.)
Ferric Oxide (Brown)... 40 grn. (2.6 gme.)
Quinine Valerianate... 20 grn. (1.3 gme.)

Dispense in 24 capsules. One capsule after each meal.—*Va. Med. Semi-Month.* F.

Chronic Bronchitis

Ammonium Chloride..... 1½ dr. (5.5 c.c.)
Tincture Hyoscyamus... 4 fl. dr. (15 c.c.)
Wine Ipecac..... 1½ fl. dr. (5.5 c.c.)
Syrup Hypophos. Comp. 1 fl. oz. (30 c.c.)
Distilled Water. to make 4 fl. dr. (120 c.c.)

Two teaspoonfuls every four hours. F.

Jaccoud's Nutritive Enema

In the *Jour. de Méd. de Paris* (Dec. 12, 1897) the following formula is given:

Yolks of Two Eggs.
Dry peptone..... 1 to 5 dr.
Wine..... 4 oz.
Bouillon..... ½ pint.

It is recommended in cases of cancerous obstruction of either the cardiac or the pyloric orifice. R.

Ichthalbin

Dr. Arnold Sack, of Heidelberg, now gives further information (*Monatsh. f. prakt. Dermat.*, XXV, 1897) regarding his employment of ichthalbin. He states that ichthalbin is particularly indicated wherever a dilated condition of the capillary vessels exists, as in rosacea, and that under its influence the extremely distended vessels are observed to contract more and more. In

purely seborrheic forms, as in acne rosacea, it is less active, however. In the dermatosis common to plethoric children, and which is referable to a seborrheic condition, ichthabin has also been found serviceable when given for a long period. The remedy appears to be indicated with special importance, however, in all those cases where a mild tonic and antiseptic action is required for an extended period on the intestine, that is, in all those difficultly definable intestinal disturbances of reflex or trophic character, as in urticaria ex ingestis, in dubious pruritus partialis and universalis without anatomical cause, in so-called lichen strophulus of poorly nourished children, etc. In large doses, ichthabin conserves the albumin, and is, hence, an irreplaceable remedy in all cases in which consumption plays a part.

For the dermatologist, the remedy is useful in the tuberculous affections of the skin that occur with loss of bodily weight, and also in florid syphilis, and various malign dermatosa. In one case of lupus, not only was a loss of bodily weight held in check, but was finally converted into a positive gain, and in cases of syphilis, large doses of ichthabin also served to hold in check the enervating effects of the treatment.

F.

Rheumatism Linament

Chloroform..... 5 fl. dr. (19 c.c.)
Tincture Opium 4 fl. dr. (15 c.c.)
Salicylic Acid 4 fl. dr. (15 c.c.)
Alcohol 4 fl. oz. (120 c.c.)
Sweet Oil..... to make 12 fl. oz. (355 c.c.)

Externally. Rub into the parts thoroughly.

F.

Uremic Headache

Potassium Citrate..... 2 dr. (8 gme.)
Spirit Juniper 6 fl. dr. (22.5 c.c.)
Spirit Nitrous Ether ... 2 fl. dr. (7.5 c.c.)
Infusion Broom..... 6 fl. oz. (178 c.c.)

Wineglassful three times a day.

F.

Anti-hysteria Pills

Arsenous Acid..... ½ grn. (0.03 gme.)
Ferrous Sulphate..... 20 grn. (1.3 gme.)
Extract Sumbul..... 20 grn. (1.3 gme.)
Asafetida. 40 grn. (2.6 gme.)

Make into 20 pills. One three times a day, after meals.

F.

Ferropyrine in Dentistry

J. Rohrbach (*Die Zahntechn. Ref.*, XVI, p. 483) gives the details of a case in which ferropyrine was employed to stop the hemorrhage following an extraction, and which had resisted all other remedies. The remedy was applied on a small plug of cotton, which pressed into the cavity after the

coagulum had been removed. Contact for ten minutes sufficed to entirely check the hemorrhage. The remedy also caused a relaxation of the pain, besides showing none of the caustic properties of the iron chloride. The writer warmly recommends the use of ferropyrine on account of its reliability and freedom from danger. F.

Ichthyol in Conjunctivitis, Blepharitis, and Strumous Keratitis

Dr. Jacovidès (*Med. Week*, V, p. 58) employed ichthyol, in the course of his experiments, either in a simple aqueous solution (the addition of glycerin might have proved irritating to the eye) or as an ointment in these affections. Both the solution and the ointment were made strong or weak, according to circumstances, as follows:

Ichthyol..... 50 gme.=12.5 dr.
Distilled Water..... 50 gme.=12.5 dr.
Ichthyol. 30 gme.= 7.5 dr.
Distilled Water..... 70 gme.=17.5 dr.
Ichthyol.. 2-2.5 gme.=0.5 to 0.6 dr.
Vaselin..... 100 gme.=25. dr.

For external use.

The solutions of ichthyol are applied to the conjunctiva with a brush, in the same way as solutions of silver nitrate. The conjunctival culs-de-sac are previously cleansed with some antiseptic lotion, first the upper, then the lower, eyelid being everted and kept in position by the thumb and index-finger of the left hand, and the whole of the surface of the palpebral conjunctiva brushed with either the weak or the strong solution. Then slight massage is performed for a few moments, with the pulp of the little finger, in cases of simple conjunctivitis. It may be prolonged for a minute or more, in cases of trachoma. Lastly, any excess of the medicated solution is removed by means of a pellet of moist cotton-wool. These applications are repeated daily or every other day. They give rise first of all to intense hyperemia of the conjunctiva, with pricking and occasionally pain; but all these phenomena disappear within from fifteen to thirty minutes, the eye becomes even less congested than before, and the patient experiences a feeling of relief. Ichthyol ointment is applied by means of a brush or spatula. A small quantity, the size of a pea, is deposited in the inner angle of the eye, and it is made to fuse in all directions by gently moving the eyelids. The patient himself soon learns the way of applying the ointment, which determines much less reaction than the solution. As a rule, the treatment was first begun with the solution and was then followed up by the ointment. In inveterate cases, the two preparations may be em-

ployed simultaneously, the eyelids being brushed with the solution in the morning and in the evening the patient himself applies the ointment.

In this way Dr. Jacovidès has come to the conclusion that ichthyol can be used with advantage in all forms of conjunctivitis and of blepharitis. It exerts on the inflamed tissues a complex reaction, being both a vaso-constrictor, an anodyne, and an astringent. The results, however, are particularly favorable, and often superior to those obtained by other means of treatment, in cases of phlyctenular and of catarrhal conjunctivitis, both acute and chronic, and also in blepharitis. It has proved fairly useful in cases of purulent conjunctivitis in adults and children of a certain age, but in ophthalmia neonatorum it showed itself inferior to the usual treatment by cauterizations with a 3-per-cent. solution of silver nitrate, or to free lotions with the permanganate of potassium or of calcium. In cases of trachoma, ichthyol did not prove equal to copper sulphate. In inveterate cases of granular conjunctivitis with corneal opacity and pannus, a slow, but considerable, clearance of the cornea was obtained. The strong solution of ichthyol was applied every other day, combined with scarifications and the daily use of the stronger ointment.

Dr Darier reports (*La clin. Ophtal.*, No. 3, 1897) having used ichthyol in various species of blepharitis, and particularly in the extremely obstinate strumous kind that had resisted all other medication. He used the remedy in the form of the following ointment, applied to the pupils morning and evening:

Ichthyol.....	1 gme.
Starch, Powdered.....	20 gme.
Zinc Oxide.....	10 gme.
Vaselin.....	50 gme.

This ointment was found to be superior to red-precipitate ointment, although it did not always yield a complete cure. Great relief was experienced by the patients during its use. But, when its employment was suspended, the blepharitis again broke out with sufficient intensity to require renewed application of the remedy. The ointment is not so effective in very resistant and severe forms in which the eyelids are tumefied, very red, sometimes with ectropion and tomentose and secretive conjunctivitis, such as are most commonly encountered in strumous subjects. In these cases undiluted ichthyol was applied, spread on a small piece of linen laid directly on the half-closed eyes at bedtime, the dressing being removed the following morning, when after cleansing with a boric-acid wash, the eye ap-

peared less red and the eyelids less turgid. This treatment gave great satisfaction in a large number of cases in which the classic form of treatment was ineffective.

The writer states that ichthyol, applied as above, has a very marked antiphlogistic action, rapidly diminishes the infiltration of the tissues; the redness disappears, but it appears to augment rather than diminish the conjunctival secretion, for which reason nitrate of silver was usually used in conjunction with it.

For the purpose of general medication, ichthyol in the form of granules each containing 0.1 gme. was found to be best, the dose being four daily.

The granules advantageously replaced the cod-liver oil and sulphur preparations that are so valuable in the affections to which persons of a scrofulous or lymphatic temperament are subject.

In cases of strumous vascular keratitis resistant to all other treatment, very good results were had on introducing into the conjunctival cul-de-sac an almost imperceptible quantity of undiluted ichthyol. In résumé, the writer states that ichthyol is a valuable agent in the treatment of all ocular affections resulting from lymphatism in general. It is indicated whenever there is any infiltration of the tissues with more or less intense congestion. It appears to be most particularly useful in strumous blepharo-conjunctivitis. In eczema of the eyelids the use of the ointment appears to be preferable. It will also be found useful to exhibit the remedy also internally in conjunction with its local application. F.

Aphthous Stomatitis

Potassium Chlorate.....	4 gme. (1 dr.)
Tincture Myrrh.....	3 gme. (45 grn.)
Distilled Water.....	200 gme. (7 fl. oz.)

For spraying the mouth.

Potassium Chlorate.....	1 gme. (15 grn.)
Distilled Water.....	90 gme. (3 fl. oz.)
Syrup Raspberry.....	10 gme (2 fl. dr.)

Teaspoonful every two hours. Keep on ice. F.

New Light on Thyraden

Dr. H. Stabel (*Berl. klin. Woch.*, 1897, Nos. 33-35) states that he has obtained brilliant results from the exhibition of thyraden in a number of cases of sporadic cretinism.

According to Dr. W. Zinn (*Berl. klin. Woch.*, 1897, No. 27), no untoward effects were ever observed to follow the use of thyraden tablets, and experience showed that the tablets, when supplemented by a sufficiently mixed diet, may be very effective in obesity, in no wise affecting the

flesh, but causing the disappearing of the fat and water, and in this manner rendering the cure of obesity possible.

Dr. C. Knopf (*Münch. med. Woch.*, 1897, No. 22) reports the treatment of a case of cachexia thyreoidæ occurring in a child, and in which doses of 0.25 gme. (4 grn.) of thyraden given twice daily, led to a cure in forty-one days.

Dr. Sack in an address before the Section on Dermatology of the International Medical Congress at Moscow, reported a case of secondary syphilis that had resisted even mercury and iodine, but in which thyraden yielded brilliant results. The remedy produced emaciation, as was to be expected, but this was overcome by the exhibition of ichthalbin with the happiest results. F.

Sodium Bisulphite in Lead-poisoning

This drug is highly recommended by Dr. Peyron, *Centralbl. f. inn. Med.* (No. 42, 1897). A daily dose of 3 or 5 grn. of the sodii bisulphite will eliminate as much as 72 mg. in a day. Its action is very rapid, the maximum excretion of lead occurring two or three hours after its ingestion. S.

Creosote Enemata in Tubercular Peritonitis

Dr. Thomas, of Geneva, has had recourse to creosote enemata in five cases of peritoneal tuberculosis (*Med. Week*, V, p. 623). The disease manifested itself by tympanitic distention of the abdomen, with a feeling as of resisting masses within the abdominal cavity (agglutinated intestinal folds), in some cases by ascites and foci of bronchopneumonia, loss of appetite, diarrhea or constipation, unsatisfactory general condition, attacks of fever, swelling of lymphatic glands; lastly, by the coexistence or pre-existence of simple or double pleurisy. In one case, Koch's bacillus was detected in one of the lymphatic glands.

In all these cases, an enema was given every evening, consisting of from 100 to 150 gme. ($3\frac{1}{2}$ to 5 fl. oz.) of cod-liver oil, emulsified with from 0.5 to 2 gme. (8 to 30 min.) of creosote, according to age, and a few drops of laudanum. These enemata were well borne, provided the intestine had been emptied previously.

Local revulsion was also performed, either with iodine or iodoform collodium in the proportion of 10 per cent., or with ichthyol pure.

Under the influence of this treatment, the general condition of all the patients improved, and both the abdominal and pulmonary symptoms gradually disappeared.

F.

REVIEWS

Hugh Wynne, Free Quaker, Sometime Brevet Lieutenant-Colonel on the Staff of his Excellency General Washington. By S. Weir Mitchell, M. D., LL.D., Harvard and Edinburgh. 2 vols. 35th thousand. New York: The Century Co., 1897.

Dr. Mitchell has been long known by his professional brethren as a very versatile and gifted gentleman. He has won honor as a practitioner, as a man of science, as an essayist, as a poet and as a writer of the highest merit. Of his many stories none has excelled the one now before us and none has received such unstinted praise from the press. It is a distinctly American story by an American and on a theme that every American loves to linger upon. The contrasts are such that one is enthused by every page. The stirring times of the revolution, the pictures of quiet quaker life, Philadelphia as the center of interest of the plot, and the duels, battles, and intrigues involved in the tale make it breathlessly interesting from alpha to omega. To read this book is to see Philadelphia and its inhabitants exactly as they were during the years 1753 to 1783, and no single history of the time so graphically illustrates this phase of the subject. One feels as if he were dealing with real personages and real histories as the plot progresses instead of with the ideas of a novelist. It is at once intensely realistic and interesting. The picture of the historical characters of the times are as charming and natural as if they were men of our own day. That of Washington is a particularly happy one and contains none of the gush or hero-worship to which small men resort when writing up great characters. He gives us a natural, dignified, calm, soldierly gentleman, and not an ideal, impossible demigod.

Simon's Clinical Diagnosis.—New (2d) Edition, Revised and Enlarged. A Manual of Clinical Diagnosis by Microscopical and Chemical Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M. D., Late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. In one very handsome octavo volume of 530 pages, with 135 engravings and 14 full-page colored plates. Cloth, \$3.50. Philadelphia: Lea Brothers & Co., 706 to 710 Sansom Street.

It is unusual for a medical book to be in such demand when first published that the edition is exhausted in less than a year. When this occurs it is good evidence of the satisfaction the book is giving its readers. Simon's Clinical Diagnosis has had the fortune to meet with such a recognition. No endorsement of a reviewer can speak louder in its praise than this fact. No one could have had a better training for the production of a work of this character than Prof. Simon, and he has done his best in this volume. The author's preface to this second edition sums up in concise form the improvements introduced. It says: "The parasitology and bacteriology of the blood, saliva, feces, urine, and vaginal discharge have been almost entirely rewritten." New methods of chemical examination have been introduced, numerous additions have been made to the text, the examination of the cerebro-spinal fluid and its clinical significance have been considered and the illustrations have been both improved and increased in number. The colored plates are ex-

ceedingly beautiful and accurate. Whoever wishes to conduct careful examinations of sputa, blood, semen, feces, urine, gastric secretions, buccal secretions, vaginal secretions, cystic contents, mammary secretions, nasal secretions and the like will find full directions in this volume. Microscopical, macroscopical, and chemical methods are described in detail. It is certainly a very useful work for any physician to possess. The publishers have done their share toward making a success of it. The binding, typography, paper, and whole general appearance of the volume leave nothing to be desired.

Essentials of Bacteriology: Being a Concise and Systematic Introduction to the Study of Micro-organisms for the Use of Students and Practitioners. By M. V. Ball, M. D., Bacteriologist to St. Agnes Hospital, Philadelphia. Third Edition, revised, with eighty-one illustrations, some in colors, and five plates. Philadelphia: W. B. Saunders, 925 Walnut Street, 1897. Price, \$1.00.

The amount of information that Dr. Ball has been able to crowd into this small volume and make his meaning generally clear is surprising. As a question-compend of the Saunders' series we can hardly accord it first place although as a whole it stands well. The rhetoric in a number of places is slightly defective and the author's meaning sometimes obscure. A third edition should not be so marred. The straining at conciseness should never be allowed to detract from clearness of diction. Some of the space devoted to illustrations of apparatus that the student is never likely to use nor even see could have been given over to reading-matter to advantage. In spite of these slight defects we must say that we know of no work on the subject that is comparable with this as a pocket-volume for memorizing the essentials of bacteriology. So long as examinations are conducted as at present such books are necessities and cannot be dispensed with. Even under ideal conditions they would perform a useful function, though a much more restricted one than at present.

Mr. W. B. Saunders, of Philadelphia, has in preparation for early publication an American Text-Book of Diseases of the Eye, Ear, Nose, and Throat by Drs. De Schweinitz and Randall, of Philadelphia; an American Text-Book of Pathology by Drs. Guiteras and Riesman of the same city; an American Text-Book of Legal Medicine and Toxicology by Dr. F. Peterson, of New York, and Dr. W. S. Haines, of Chicago; a Manual of Pathology by Dr. A. Stengel, of Philadelphia; Nervous and Mental Diseases by Dr. Church, of Chicago, and Dr. Peterson, of New York; a Text-Book of Embryology by Dr. J. C. Heisler, of Philadelphia; Diseases of the Nose and Throat by Dr. D. B. Kyle, of Philadelphia; a Text-Book of Obstetrics by Dr. B. C. Hirst, of Philadelphia; an American Text-Book of Nursing by American Teachers and edited by Roberta M. West, of Philadelphia.

The same publisher has now ready the 1898 edition of his Gould's Year-Book, the American Text-Book of Genito-Urinary and Skin-Diseases, Valzah and Nisbet's Diseases of the Stomach, Keen's Surgical Complications and Sequels of Typhoid Fever, and Chapin's Compendium of Insanity. The English Edition of the world-famous Lehmann medicinishe Handatanten is in actual preparation and seven volumes thereof will be issued at an early date. Each volume will contain from 50 to 100 colored plates.

CORRESPONDENCE

How Do Medicines Produce Results?

To the Editor of the A. M.-S. BULLETIN:

The question propounded by T. G. Simpson, M. D., in your issue of Jan. 10, viz.: "How do Medicines Produce Results?" is a very apt one; as upon its proper solution will depend the scientificity of therapeutics, and the consequent strengthening of the influence of the medical profession on the laity. Of course until some uniform methods of experimentation have been devised there will be as many conceptions of medicinal action as there are leaders in medical thought. In the mind of Dr. Simpson evidently one of two solutions presents itself as most plausible, either that medicines produce results by assimilation with the tissues, or by the physiological work entailed in eliminating them. Perhaps we may be pardoned for contributing our mite towards sustaining the latter position. First, the further away we get from a food the nearer we get to a drug. In other words a drug becomes a drug in direct proportion as it is not assimilated, and thereby does not contribute to nutrition. Second, that modern materia medica state the avenues through which a drug is eliminated, which would indicate that the drug preserves its identity sufficiently for recognition, which would not be the case if assimilated. Third, it is not infrequently stated of persons who have taken drugs with suicidal intent that they took too much. By this we understand that the vital powers have rallied with such vigor to expel the offending substance that absorption is prevented. On a fly-leaf in Dr. Hare's most excellent work on "Practical Therapeutics" is the statement that "when a physician is called to guide a patient through an illness, he should be constantly a watchman, and a therapist only when necessary."

This, to our mind, is the most advanced conception of the function of a physician, and assumes that the tendency of nature is to effect a cure through her own inherent powers of combat with disease, and that she should only be aided when those powers become weakened, and the avenues for the removal of offending causes need a little direct stimulation.

FRANK C. WALKER, M.D.

Taunton, Mass.

E. A. Barrett, of Toledo, O., has been fined \$50 and costs for violating the new medical law in practicing without being registered. Receipts he had given to patients for money received were put in evidence against him. He was not able to deny them and so he was beaten without trouble.

Prof. Elmer Gates of the Smithsonian Institution of Washington is reported by the Chicago Times as claiming that insanity is only the result of bad memories in certain brain-cells. He would cure this condition by removing these cells or by training them in better directions. He holds that the tendency to murder can be removed from the brain by the surgeon's knife. He tells us that "a criminal propensity is nothing else than a dominance of evil memories," and that this can be remedied and a moral man produced by building up healthy brain-cells to take the place of the diseased.

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EDITOR'S NOTES

The Boston *Traveler* says that "It is urged that the bodies of paupers should be dedicated by law to the dissecting-table. It strikes us that the sufferings of the poor should close with death." We should like to ask the *Traveler* what means should then be taken to educate medical students in anatomy? Perhaps the editor of that journal is one that believes the doctor should get his knowledge by inspiration or miracle. He would like to see the grand old time restored when the doctor was cuffed and cursed for being ignorant of how to perform surgical operations, when the public made it a crime to dissect. Consistency is a rare jewel with some men when they undertake to discuss medical rights.

Imitators of Dr. Schlatter, who have been trying their hand at the complete extirpation of the stomach in cases of sarcoma, have not been receiving much glory for their pains. Two cases have been reported lately. Both have terminated fatally. To be successful, operations should be performed early in the disease and before it has had time to attack other parts. It is probably fortunate that these first attempts turned out badly, otherwise we should most likely have had every ambitious young surgeon in the country who wanted an opportunity to advertise himself trying what he

could do in this line. The fatal outcome of the cases reported will no doubt dampen their ardor and save many a victim. Ambition is all right when tempered with care; conservatism, and some common sense. Scientific zeal and foolhardiness are two very unlike qualities that are quite apt to be confounded with one another.

Do books carry contagion from sick-rooms and give disease to those who afterward read and handle them? The Boston *Traveler* says they do, and advocates the disinfection of every book returned to a public library, so as to prevent such danger. The librarian of the Boston Public Library cannot quite see the matter in the same light, and so is not willing to go to the expense and trouble of doing so. No doubt he also sees the great danger to the books if the disinfecting is to be done as it should. As a rule public disinfecting is a farce and does not disinfect. Proper disinfecting of books, so as to be of benefit, would be a serious matter to a large public library. Between the leaves and in every part of a volume that has been exposed to contagion the germs are likely to be lurking. How to check this danger is a matter that should meet with serious and careful consideration. We fear that its solution will not be found in the manner proposed. Something should be done toward teaching the public that all books belonging to public libraries should be kept out of sick-rooms, and all school-books handled by children that are suffering from contagious diseases should be destroyed.

The antivivisection bill now before Congress is in very great danger of passing unless medical men do some earnest urging, and that soon. The danger does not lie in the strength of the bill itself, or in anything the antivivisectioners are able to do for it directly. Its chances of passing are lodged in a deal. Senator Gallinger is Chairman of the Pension Committee, and every senator who has a large number of pensioners among his constituents or of those seeking pensions will be anxious to do what they can to please him and get his favor in return. It will be a disgrace to our country if this measure passes. We hope a large number of our readers will try to get their Congressmen to vote against it. Gallinger has no sympathy for regulars or for the scientific method of studying medicine. Physiology is detested by those of his way of thinking. They fear it and wish to see an end made of its study in this country. It is not because they look upon it as cruel

that they fight vivisection, but because it is the method of their professional rivals. They and the antivivisectors work into one another's hands for business reasons.

Medical men who intend to take a tour through Europe during the coming summer could not do better than to arrange for a trip to Madrid, at the time of the meeting of the Congress of Hygiene and Demography. A great deal of fear has been manifested by Americans of going into Spain during the excitement about Cuba. Travel from this country to the Alhambra and other places frequented by tourists has for the past three years almost ceased. The natives of those regions are very much grieved over the affair, and say that the Americans are needlessly alarmed, as no one would harm them, and on the contrary, they would be welcomed as never before. Doctors who go to Madrid will find a royal welcome ready for them instead of a rebuff.

Do the modern sensational newspapers act as a predisposing cause of crime? Dr. F. Warren, of Washington, D. C., in an article in the January number of the *University Medical Magazine*, declares that they do. He holds that they act as a hypnotizing power through their suggestiveness, that they create an insane desire for newspaper notoriety, and that the competition among them for the original manuscript reporting the facts from the pen of the criminal puts a premium upon crime. There can be but little doubt of the effect of suggestion among the criminally inclined. It no doubt leads to a multiplication of cases of a common type. The love of notoriety, too, may weaken the resistance of some and become a factor in their downfall, but we doubt if the demand for reports at first hand of great crimes will to any extent lead to their commission. It is too remote a consideration for that class of people to be at all likely to bring into their calculations. They are usually very short-sighted, and only can see or appreciate immediate advantages.

BARBER-OUS.—Among the curiosities of the social uprisings of the day is the attempt of the barbers of New York and of the Province of Quebec to have their business put by legislative enactment among the high and learned professions. It is proposed that "It shall be unlawful for any person to follow the occupation of barber unless he shall have first obtained a certificate of registration, to be conferred by a board of examiners." Public examinations are to be held four or more times a year, and a

general supervision over the tonsorial artists of the community maintained. It is desired that the candidate shall have been three years apprenticed to a qualified and practising barber, and shall also have attended a course of instruction in a properly appointed and conducted barber-school before he shall be eligible to appear for examination: further, that the barber shall have to be duly licensed, and that the board shall have the power to revoke or suspend his certificate for certain offences, notably—habitual drunkenness, gross incompetency, the having of infectious disease, or the conviction of crime.

This Canadian and New York movement seems, however, not to be as original as at first appears, for in last April the Minnesota Legislature did enact a law regulating in the State of Minnesota the business of the barber, and providing for stated examinations before a board. In September last, in the city of Minneapolis, at Hezener's barber-supply emporium, the first examination took place. Among the questions asked were the following:

1. How long have you been in the profession?
2. Where and who did you work for?
3. What is your age?
4. How long have you been in Minnesota?
5. How long have you been in the profession in Minnesota?
6. Are you free from contagious disease?
7. If you are not, what are the diseases?
8. Can you recognize a disease on the face or scalp?
9. If so, how?
10. From what source do you contend lies the greatest danger from inoculation?
11. Do you sterilize your instruments?
12. When and how often?

All of which brings to mind the conversation said, by *Punch*, to have taken place during an epidemic of Asiatic cholera:

Barber—"They say that cholera is in the 'air.'"

Customer—"Heavens, I hope you are careful of your brushes."

Barber—"O, I don't mean the 'air of the 'ead, but the hair of the 'atmosphere.'"

Lithium Sodate in the Uric-acid Diathesis and in Nephritic Colic

Rubeman, *Centralbl. f. die Ges. Therapie* (No 11, 1897), employs the following formula:

Lithium Sodate..... 1.0
Distilled Water..... 10.0

M.—A Pravaz syringeul to be injected subcutaneously once a day.

Lithium Sodate..... 2.0
Mucilage of Tragacanth..... 9.5

M.—Divide into fifty pills. One to be taken three times a day.

PUBLISHERS' DEPARTMENT

THE UNIVERSAL MULTI-NEBULAR VAPORIZER

H. I. Jones, M. D., of San Francisco, in an article on "Chronic Aural Catarrh," appearing in the *Laryngoscope*, says: "Lately I have been employing a vapor massage by means of the Universal Multi-Nebular Vaporizer. In those chronic cases, with thickening and rigidity of the ossicles, have found excellent results."

This instrument is made by The Globe Manufacturing Co., Battle Creek, Mich.

MULFORD'S DIPHTHERIA ANTITOXIN

The supplementary collective investigation of the American Pediatric Society, which embraced more than 1700 cases of unmistakable laryngeal diphtheria, showed that 40 per cent. had been treated with Mulford's Concentrated Diphtheria Antitoxin, and that, in the cases so treated, the mortality was about one-third less than in all the cases treated with other antitoxins. Physicians who are not already familiar with this product can obtain full particulars and a recent brochure on Antitoxin by writing to the H. K. Mulford Company, of Philadelphia.

ANGIER'S PETROLEUM EMULSION

The *Homeopathic News* says: "This preparation has no equal among the petroleum compounds, combined, as it is, with the Hypophosphites of Lime and Soda, in the treatment of bronchial and pulmonary affections. Devoid of nauseating properties, it is easily taken into the most delicate stomach; being in the form of an emulsion it is readily absorbed by the lacteal lymphatics. The cough, diarrhea, and night-sweats so characteristic of phthisis, are greatly relieved, and, in many cases permanently cured, as is attested by many favorable reports. The Angier Chemical Co., of Boston, will gladly furnish samples and literature to any member of the profession not already acquainted with the merits of the preparation."

CAMPHO-PHÉNIQUE

Dr. W. H. Grayson, Surgeon to St. Mark's Railroad Hospital, Venice, Ill., says: "I have used Campho-Phénique in all sorts of surgical procedures, and believe it to be the best antiseptic known. I find it non-irritating, non-poisonous and highly germicidal. It corrects offensive odors and facilitates healing. In a word, Campho-Phénique is the only antiseptic agent I am acquainted with that possesses all the good qualities without any of the bad. It is the remedy par excellence in erysipelatous affections."

ANTIKAMNIA

That Codeine had an especial effect in cases of nervous coughs, and that it was capable of controlling excessive coughing in various pulmonary and laryngeal affections, was noted before its true physiological action was understood. Later it became evident that its power as a sedative was due, as Bartholow says, to its action on the pneumogastric nerve. Codeine stands apart from the rest of its group, in that it does not arrest secretion in the respiratory and intestinal tract.

The coal-tar products were found to have great power as analgesics and antipyretics long before experiments in the therapeutical laboratory had been conducted to show their exact action. As a result of this laboratory work we know now that some products of the coal-tar series are safe, while others are very dangerous. Antikamnia has stood

the test both in the laboratory and in actual practice, and is now generally accepted as a safe and reliable coal-tar product. Five-grain "Antikamnia and Codeine Tablets," each containing $4\frac{3}{4}$ grn. Antikamnia, $\frac{1}{4}$ grn. Codeine Sulphate, afford a desirable mode of exhibiting these two valuable drugs. The proportions are those most frequently indicated in the various neuroses of the throat, as well as in the coughs incident to pulmonary affections.

THE RATIONAL TREATMENT OF PULMONARY PHTHISIS

Writing under this title J. Hobart Egbert, A. M., M. D., Ph. D., of Holyoke Mass., states: "Among the various therapeutic measures recommended for the general treatment of consumption, Cod-liver Oil heads the list, for, as Dr. F. T. Roberts has justly said, 'almost universal experience has testified to its good effect in this disease.' Cod-liver Oil not only exerts a direct beneficial action upon the lungs, but is essentially a reconstructive tonic and nutriment. In its administration it is often wisely combined with hypophosphites, which seem to augment its curative value. Its nauseating tendencies must usually be overcome in order to insure its good effect, and hence the necessity of due care in the selection of an eligible preparation when prescribing Cod-liver Oil. The preparation known as Hagee's Compound Cordial of Cod-liver Oil is a most admirable and available preparation."

CHEAP FARMS

The Chicago, Milwaukee & St. Paul Railway can put you in the way of getting fine farm lands in South Dakota for \$10 per acre and upwards, one-third cash, balance on easy terms. Send for descriptive list of lands and for free illustrated pamphlet on South Dakota containing numerous letters from farmers in the finest agricultural and stock-growing Western state.

Address Geo. H. Heafford, General Passenger Agent Chicago, Milwaukee & St. Paul Ry., Old Colony Building, Chicago, Ill., or H. F. Hunter, Immigration Agent, 291 Dearborn, St., Chicago, Ill.

Scabies Ointment

Dr. L. Leistikow (*Med. Week*) recommends the use of the following:

Naphtol	2 gme. (30 grn.)
Precipitated Sulphur.....	4 gme. (1 dr.)
Storax.....	12 gme. (3 dr.)
Powdered Pyrethrum.....	12 gme. (3 dr.)
Lard.....	40 gme. (10 dr.)

This ointment is rubbed in once a day for three days in succession, during which the patient should wear flannel next the skin. F.

Sodium Salicylate and Antipyrine

Bricemoret (*Wien. med. Presse*, Vol. XXXVIII, p. 1642) warns against administering sodium salicylate and antipyrine in powder form on account of their untoward local action on the gastric mucous membrane. He states that sodium salicylate should be given in at least twenty times its weight of water, and that antipyrine should be given in some carbonated beverage, such as River's potion.

NEWS

The Missouri University at Columbus, Mo., has opened a dispensary for the benefit of the students. All who apply will be treated free whether rich or poor. So says the *Kansas City Times*.

W. W. Spearing, an inmate of the Insane Asylum, Medfield, Mass., was lately scalded to death by being compelled to bathe in water at nearly 150 degrees F. The officers in charge blame the attendant of criminal carelessness in permitting it to occur.

The New Britain, Conn., Medical Society has adopted a scale of prices for the members to charge when making calls or doing office practice. Calls are hereafter to be \$1.50 or \$2.00, according to location. The usual price for a call hitherto has been \$1.00 and \$1.50.

The medical men of Illinois are complaining at the laxity of the authorities in enforcing the medical laws. The *Peoria Journal* quotes a medical man of that city as saying that "the State of Illinois is a veritable paradise for quack doctors, second-class physicians and itinerant members of the medical fraternity." They say that the State examination is so easy that there is a flood of inferior home-made physicians of a low grade.

The Memphis, Tenn., *Scimitar* has come to the aid of medical men in fighting a doctor who lets politics direct his science. The *Scimitar* bravely scores Dr. Dunn of the Mississippi Board of Health for dragging in State rights and State efficiency as reasons that there should be no national interference with quarantine arrangements in epidemics of yellow fever or cholera. The editor pointed out how useless Dr. Dunn and his board were last summer.

The medical men in attendance at the Houston, Texas, meeting of the Masonic Grand Lodge passed the following resolution:

Whereas, The Legislature of the State of Texas did at its last annual session enact a law requiring physicians to pay an annual occupation tax of \$7.50; and,

Whereas, We deem said law unjust and calculated to injure the helpless; be it

Resolved, That we as regular practicing physicians and surgeons in the State of Texas do hereby denounce said law as a thrust at a profession whose mission is love and whose aim is charity.

The patients in the City and County Hospitals of San Francisco, Cal., who have been receiving treatment with oxytuberculin are up in arms against Dr. Buckley for saying that the remedy is a poison. They declare that it has been doing them good and they want it continued. Many of them have written to the daily papers commending the preparation and declaring that what they write is of their own accord, unsolicited and unknown to Dr. Hirshfelder, the inventor. One of them says that when the treatment began with him he had a severe cough that has wholly gone, and whereas, his weight was then 133 pounds, it is now 150 pounds. Another declares that a month ago when he began the treatment he could not walk a block without being out of breath, he was coughing continually, was losing weight, and had troublesome night-sweats. He now asserts that all these symptoms have left him and he can run up two flights of stairs without trouble.

The proportional distribution of physicians throughout the different sections of the United States has been tabulated as follows by the *Virginia Medical Semi-Monthly*. The estimate is based on a population of sixty-five millions for the whole nation:

State.	Population.	Number of Physicians.	Ratio of Population
Alabama	1,513,017	1,609	1: 940.3
Alaska	32,052	5	1: 6,410.0
Arizona	59,620	95	1: 638.1
Arkansas	1,128,130	1,841	1: 558.5
California	1,208,130	3,152	1: 383.4
Colorado	412,198	918	1: 449.0
Connecticut	746,258	1,239	1: 606.9
Delaware	168,493	239	1: 704.5
Dist. of Colum..	230,392	857	1: 264.2
Florida	391,422	764	1: 512.3
Georgia	1,837,353	2,021	1: 909.5
Idaho	84,385	109	1: 772.3
Illinois	3,826,351	7,331	1: 521.9
Indiana	2,192,404	4,778	1: 458.8
Indian Ter'ty...	172,321	291	1: 592.3
Iowa	1,911,896	3,400	1: 562.4
Kansas	1,427,096	2,210	1: 645.6
Kentucky	1,858,635	3,104	1: 598.8
Louisiana	1,818,587	1,460	1: 766.2
Maine	661,086	1,164	1: 567.9
Maryland	1,042,390	2,003	1: 520.4
Massachusetts ..	2,238,943	4,032	1: 555.2
Michigan	2,093,889	3,730	1: 561.3
Minnesota	1,301,826	1,576	1: 826.0
Mississippi	1,289,600	1,397	1: 943.3
Missouri	2,679,184	4,736	1: 565.7
Montana	132,159	247	1: 575.5
Nebraska	1,058,910	1,595	1: 663.8
Nevada	45,761	48	1: 953.3
New Hampshire...	376,530	669	1: 562.6
New Jersey.....	1,444,933	1,844	1: 783.5
New Mexico.....	153,593	97	1: 1,584.5
New York.....	5,997,853	11,132	1: 538.7
N. Carolina.....	1,617,947	1,358	1: 1,191.4
N. Dakota.....	182,719	203	1: 900.1
Ohio	3,672,316	7,575	1: 484.7
Oklahoma	61,834	326	1: 189.7
Oregon	313,767	653	1: 480.5
Pennsylvania ...	5,258,014	8,439	1: 623.0
Rhode Island...	345,506	543	1: 536.3
S. Carolina.....	1,151,149	1,060	1: 991.7
S. Dakota.....	328,808	364	1: 903.4
Tennessee	1,767,518	3,079	1: 574.0
Texas	2,235,523	4,617	1: 484.2
Utah	207,905	254	1: 818.5
Vermont	332,422	626	1: 531.0
Virginia	1,655,890	1,978	1: 847.3
Washington	349,390	650	1: 537.5
W. Virginia.....	762,794	1,236	1: 536.4
Wisconsin	1,686,880	1,974	1: 854.9
Wyoming	60,705	60	1: 1,011.7

Ovaraden in Various Affections

Dr. Rossier states that ovaraden has been found to be very valuable in all cases of anticipated climax (castration), and climacteric affections, while the pains of neurasthenic dysmenorrhea were also relieved by it. The dose usually given was from 1 to 2 gme. (15 to 30 grm.) daily, either in powder or tablet form. In menstrual difficulties the exhibition of the remedy in the above-mentioned dose three days before the period yielded excellent results. No untoward by-effects were ever observed by the author.

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EDITORIAL

WATER

MOST European physicians, or at least very many European physicians, believe that the most active cause of gastro-intestinal disturbance in America is the habitual use of ice-water, and there can be no doubt that flooding the stomach with large quantities of ice-water during eating has a tendency, by lowering temporarily the temperature of the viscus, as well as by diluting the gastric juice, to cause disturbances of digestion, which on repetition may result in the production of gastric catarrh. On the other hand, the habitual taking of large amounts of water is very advantageous for all gouty individuals, and indeed for all persons who eat more than the needs of the system require, in which latter class is included practically the whole of the American people.

It would seem, *a priori*, probable that in its relations with water the human system obeys to a greater or less extent the ordinary physical and chemical laws. What is taken into the body must get out of the body, sooner or later; and the discharge of large quantities of water necessarily increases the flow of excretion. The old researches of Roux and of Boecker indicated that the increase of the amount of urine which follows the water-drinking is sometimes,

but not always, accompanied by an increase in the output of solids from the kidneys. The cause of the differences of effects has been shown by Meyer to depend upon the condition of the body; the excess of water in the system appears to have very little influence upon tissue-disintegration, but to be powerful in dissolving or carrying off—in other words, in washing out—all excrementitious materials, whether such materials be due to disintegration of the tissues themselves or be educts from an excessive food-supply.

The American habit of drinking water has not, however, arisen from the promptings of any blind instinct leading the race to attempt to wash out of the body the products of excessive self-indulgence, or the last taint of a gouty British ancestry; but has simply sprung from the climatic condition. The dry air (as compared with Europe) and the high temperature of the summer months make the American throw off water and make the system demand water. The vacuum in the body must be supplied. That the American people do not drink more water than they need is shown by the fact that the American man is a drier individual, not only in his speech but also in his tissues, than is the European. True humor consists of a kernel of truth surrounded by a hull grotesquely unfit for it; and so the humorist habitually expresses a physiological fact when he makes John Bull in the cartoon

plump and succulent, and Brother Jonathan hard and dry. Many years ago the writer of this editorial, at a meeting of the physiological sections of an International Congress, said that a certain physiological operation or procedure reported by European physiologists did not produce the results upon dogs which were alleged, unless indeed the European canine were very different from his American brother; a suggestion which led to a general titter until Brown-Séquard got upon his feet and said that he had studied and practiced medicine and studied and practiced vivisection on the two continents, and that it was a fact that the American people and the American dogs and lower animals were distinctly different in vascularity from their respective kindreds in Europe; that operations in vivisection which in Europe he could scarcely perform on account of the amount of bleeding produced he had often done on the American dog with almost dry tissues.

The American drinks water because he is thirsty; he is thirsty because he sweats; and he wants his water cold because he is hot; the cooling of the system being demanded, but the cool temperature being especially grateful to a heated throat. What is the poor American to do? He is threatened with mummification if he does not drink water; he is appalled by the horrors of gastric catarrh if he does drink water. The answer is obvious: drink water *between meals* rather than at meals. The drier the meals the less dilute the gastric juice, the better theoretically at least is the digestion. Fortunately the ordinary human being is made with a reserve force, and so if he be in the ordinary condition he need not study the number of drops of water he takes with his meal; but if he have any disease of the stomach or feebleness of digestion it is well worth while to count the drops.

Cold water has so good a taste when a

man is very heated that most people will continue to take cold water, and a general chilling of the body would seem sometimes to be of service. Nevertheless, there probably are cases in which the sudden pouring of large masses of cold water upon a stomach in a person who has little reserve power has produced an immediate violent disturbance. These cases are, however, in our opinion, few; indeed, our belief in their existence may be due to the nursery teaching of our early childhood, since if the truth must be spoken, in a medical experience extending over thirty-five years, we have never seen colic, collapse, or any other acute symptom or condition produced by a cold drink. But for fear that the nursery bogie is the shadow of a truth, we would advise our readers when hot to drink cold water slowly. We remember once, when two-thirds dead of thirst in the Texan desert, with what joy we raised to our lips a quart mug of water and drank it to the bottom without a breath, but in an ordinary emergency a half-tumblerful of cold water, followed in a moment or two (if it must be) by the other half-tumblerful of water, should satisfy the ordinary individual. At the present time, at least in the city of Philadelphia, and we opine in various other cities of less ill repute, it is wiser for the drinker by boiling the water to substitute soup for an infusion of raw products.

THE PRINCIPLE OF CONTINUITY IN DISEASE

BUT for our belief in the principle of continuity in nature, we could have had no grand generalizations, and consequently no science. Emerson expressed his appreciation of this principle when he said that "Line in nature is not found, unit and universe are round." It guided Newton in his discovery of the law of gravitation, inspired Galileo in his study

of the nature of force, led Rumford to the determination of the mechanical equivalent of heat, and conducted Pasteur from the study of chemical phenomena to those of biology. *Natura non agit per saltum* is the searchlight of every inductive mind when peering into the dark unknown. Natural phenomena never change with absolute abruptness, and in a large number of cases the transition is so gradual that the mind need not be severely taxed in following it. In biological study there is a powerful bias against the acceptance of this principle that tends to retard medical science. We prefer to see everything from the static rather than the dynamic side. This is particularly the case when our training has been classic rather than scientific. The old order of thought led to a looking after fixed lines to disease as to everything else; but the new, following in the wake of modern discovery and civilization, treats phenomena as a continuous whole.

Diseases can no longer be looked upon as distinct entities. It is only for convenience sake that we label them with distinctive names. All diseases are but parts of the body's method of reacting against forces that interfere with its normal adjustments within itself and to its environment. Every disease has symptoms in common with every other disease, so that within limits there is identity. There can be all degrees of reaction in accordance with the character of the acting agent. Every so-called disease can exist in every conceivable degree of intensity, just as we can have every degree of intoxication in accordance with the amount of liquor drunk and the acquired or inherited resisting power of the individual. Some persons will be prostrated by a small amount of liquor, while others will require a large amount to upset their equilibrium. So it seems to be with children stricken with scarlet fever, or adults

overcome with typhoid fever or tuberculosis.

During the epidemics of all acute diseases physicians with open eyes must have observed that from the most violent to the mildest attacks treated by them there is perfect continuity. Has it ever occurred to them that there might really be far more cases treated as simple malaise, mere headache, biliousness, or slight debility than came under treatment in the forms sufficiently pronounced to be labeled with the graver names? During the late attacks of influenza almost every person felt psychically subnormal, and multitudes thought they had nothing more than an ordinary cold. Between the ordinary cold and influenza who can in all cases draw the line? Between the most violent cases of scarlet fever and scarlet rash who can point the line of demarcation? Our medical friends in the South have been quarreling over last season's epidemic of yellow fever, many of them insisting upon their belief that it was only dengue. Who has discovered evidence of an unquestionable character that these two forms of disease may not mimic each other or may not be from modified forms of a common bacterium or plasmodium? It is quite certain that neither has any fixed unvarying characteristics, and that both have many types whenever they exist as epidemics.

In accordance with the part of the body most severely attacked so will be the kind of symptoms manifested, and in agreement with the number of germs, power of the germs or immunity of the body, so will be the severity of the total symptoms. The facts of bacteriology show us that pathogenic germs can possess many degrees of virulence, and that the same kinds of germs can be very dangerous, slightly dangerous, or not at all dangerous, according to the treatment they receive in their development.

Experience has shown us that every person has some degree of resistance to the baneful effects of all kinds of poisons, and that this resistance can be increased in many instances by accustoming ourselves to their action in gradually increasing doses. With epidemics in which there is relatively slight virulence in the germs the manifestations of the disease will necessarily be mild, while with those in which a maximum of power has been acquired by them the disease will be severe. During the presence of the severe form the very variable power of immunity possessed by various persons and the possibility of some getting very much larger doses than others, according to the amount and character of the exposure, readily account for the wide differences in the severity of the cases observed.

The investigations of Fibeger, of Copenhagen, on diphtheria, as reported last August in the *Berliner klinische Wochenschrift*, show conclusively that the germs of diphtheria behave in the very way that we might, *a priori*, infer from our general knowledge of their natural history and the actions of poisons on men and animals. He has demonstrated that great numbers of people who have been exposed to diphtheria-infection and convalescents generally carry around with them in their throats nidi of Klebs-Loeffler bacilli. With facts like these before us there can be no longer any wonder whence come the mysteriously developing cases in which it is impossible to trace exposure. These bacilli have been found in a number of cases to persist in the throats of convalescents and of the apparently well for from twenty weeks to three months. Dr. Foulerton, of the British Institute of Preventive Medicine, reports a case in which an immunized individual, after freedom for some time from infection, received by exposure a fresh supply and imparted the disease to those not immune.

AMONG THE EDITORS

A CHANCE FOR THE REFORMERS

It is a humiliating confession for any institution of learning to make that its popularity depends upon the notoriety gained by its students in a brutal exhibition of physical prowess. If this is necessary to our system of education there is something the matter with the system. Such a game as foot-ball is no more necessary to the development of the body or mind in any manly or desirable quality than it is necessary to have real battles and skirmishes at West Point, and kill or cripple half of the cadets, while they are getting their military education.

Most of our educators would hold up their hands in holy horror and hasten to frame a law of interdiction if an attempt were made to introduce the German custom of duelling among students. Yet the injury received during the duelling is seldom if ever more than a flesh-wound on the face or scalp, and not to be compared in severity with the broken bones, wrenched spinal columns, or bruised internal organs common in foot-ball.

Where are all the reformers while this chance for an exhibition of their energies is going to waste? Where are the zoophilous individuals who wail over a few guinea-pigs and dogs used for scientific investigation? Are not the young men of the country as well worth your anxiety? It would seem that these brawny young fellows should prove more attractive than cats and dogs to any but incorrigible natural perverts. Do you say "the young men are capable of taking care of themselves?" Are they? Do they so? How is it in the matter of drinking and worse vices upon which it is necessary to place restraints?

Now, here is an opportunity for the antivivisectionists and the anti-vaccinationists really to do something. Why waste their talents and their tears on things that do not need reforming, when a job of genuine usefulness is offered at good pay—good pay in a large crop of sound and vigorous legs and heads and arms. For once in their lives they will have sense and reason on their side and

find themselves working in wholesome company. And where are the church people and the moralists and the educators and all the setters of the world to rights, and the good citizens generally, while all this is going on?—*Cleve. Med. Gaz.*

THE LAITY AND VENEREAL DISEASE

While teaching our young men and women many useful things, we neglect, for no substantial reason, to inculcate the fearful lesson of venereal diseases—the most preventable of all; fail to teach them how to avoid paresis, tabes dorsalis, stricture, sterility, and all the fell host that surely follow indiscriminate venery; how to avoid the species of homicide, conceived in the womb of ignorance, which unwittingly sacrifices wife and children; and last, though none the less true, that the most careful therapeutics is not infrequently absolutely inefficacious in preventing the remote consequences of venereal infection.

We flee the presence of the leper, but allow the syphilitic freedom to menace us, each and every one—to drink from the same cup, eat from the same dish, occupy the same chair in the barber-shop. The physician and the health officer are in an altercation about the disposition of a case of measles; the syphilitic slips between the legs of both.—*Med. News.*

NEWSPAPER FAME

We were curious to see what impression might have been made upon the newspaper world by the death of Mr. Ernest Hart, of London, and we therefore bought half a dozen or more of the representative newspapers of New York and Philadelphia of last Saturday and Sunday. They were found to have an uncountable and unaccountable number of pages of vile advertisements of "patent" medicines (not one of which is patented), dreary stupidities of "funny" columns, wastes of "society" news that pertained only to an insignificant and silly part of society, page after page of the doings of political bosses and criminals public and private, with gossip, scandal, and pseudoscience, all as limitless as it is nauseous. But not a line of Hart, except a mere word or two in a couple of dailies, and one excel-

lent account of Hart's life in a New York evening paper—a paper that is scorned by all "the powerful forces that influence the modern world." The cabled letters from London did not allude to the fact, showing also how little that great city knew or cared. And yet Hart was a man that had instituted and realized a great number of sanitary reforms, had profoundly influenced most of the hygienic legislation of a generation in the world's greatest nation, and had unified the medical profession of this nation into an organic agency of untold benefit to humanity; in a word, one who had saved and prolonged numberless lives and bettered their condition in a vast number of ways. What a comment is all this upon the blindness of the world to the real elements and agents of our progress.—*Phil. Med. Jour.*

A MEDICAL SACK-RACE

One of the joys of an athletic festival is the sack-race. The competitors certainly do not arrive quickly at their goal. Tumbling about tied up in sacks, or as a variety hopping on one leg, or handicapped in some other ridiculous fashion, they wobble along slowly and laboriously. But at least they provide amusement for the onlookers. And much as the public laugh at sack-races, one-legged cricketers, and such-like buffoonery, may not we also find amusement in those modes of cure in which certain professors of the healing art show themselves so confident of their powers that they deliberately tie their hands and limit their efforts to some single fad? The one-legged cricketers are not in it with the one-cure doctors, the men who cure everything by hydropathy or send all their consumptives to one place, who pin their faith entirely upon massage, or electricity, or oxygen, or whatever may be the fashion of the moment. But there is another type of medical sack-racing which is almost equally ridiculous, that, namely, which is patronized by those enthusiasts who are so convinced as to the truth of some special fad or other as to diet that they cannot be content till they have tried it on the sick. Abstinence from animal food is one of these fads, abstinence from alcohol is another. We have not yet

heard of a hospital founded on the principle of abstaining from the use of opium, but there ought to be one if all that has been said about that drug is to be accepted; while certainly the propnets and prophetesses of a pure meat diet should establish for the benefit of their poorer brethren an institution for the popularization of the "beef-steak cure." We have heard also of a diet of fruit and nuts which might well have a hospital for its adherents, for is it not hard that even a vegetarian at a vegetarian hospital may have to eat cereals? Among the most recently established institutions for the exhibition of medical sack-racing is the Oriolet Hospital. At this institution sick people are taken in ostensibly for purposes of cure, but apparently on the condition that during the process they shall live on a strictly vegetarian diet. We have no doubt that the medical treatment which they receive is perfectly good, but why should the doctor tie his hands, and instead of trying how quickly and how thoroughly he can cure his patients, using for the purpose every means within his reach, why should he devote his energies to the experiment of whether he can cure them on a particular diet? According to the report of the Oriolet, one of the great advantages possessed by the site on which it is built is the fence by which it is surrounded; another is the size of the grounds, which makes it unnecessary for the patients ever to leave the premises. No patient is allowed to go out except on very special occasions, and then only with written permission. No patient is allowed to possess any money, and any that he may bring in with him must be immediately deposited with the Sister. Lastly, we note the beneficent rule that no patient is allowed to grumble. If, then, we read between the lines, it is not difficult to see that even the patients at the Oriolet are not all regenerate, and that there is still among them a strong hankering after the flesh-pots. All these one-legged institutions are tarred with the same brush in this respect, that the patient in choosing his hospital chooses his treatment, which is ethically wrong. If there is a place for such hospitals—and we do not say there is no place—it must be left to the

doctor to decide to which institution each case must go, and such special institutions must lower their pretensions and become mere administrators of lines of treatment prescribed by independent physicians. We can quite believe that it would be an advantage to have a series of institutions at which different lines of treatment should be exclusively carried on, so that whether steaks or starvation were prescribed they should be done in first-class style. But for a patient to ask a physician to cure him with certain reservations as to means is much like asking a surgeon to cut a leg off with one hand in his breeches' pocket.—*British Medical Journal*.

STERILIZATION BY "FRYING"

There can be no doubt that the most perfect method of sterilization, where it can be applied, is by heat. Baking, however, is a more or less uncertain process, while boiling is destructive to many substances. Moreover, the boiling temperature is so little above that which is fatal to microbic life that a considerable length of exposure to such a temperature is necessary, if one is to be sure that the process has been effectually carried out. Frying, however, is another matter. Olive-oil at a temperature of 160 to 180° C. acts very quickly, and with great power. Professor Wright, of Netley, says that to obtain complete sterilization of an instrument it suffices to dip for an instant into the hot oil, and that in the case of syringes it is sufficient to fill them twice with oil at the temperature mentioned.

The temperature of the heated oil may be determined by a thermometer, but it is often more convenient to adopt the rough-and-ready methods of the cook by the aid of a bit of bread-crumbs. "It will be found that the bread-crumbs will become brown and crisp as soon as a temperature of 160 to 180 is reached." For the sterilization of syringes all that is necessary is to heat a little oil in a spoon over a spirit-lamp, testing it from time to time by bits of bread-crumbs, and, when the proper temperature has been attained, to fill the syringe twice with hot oil. All microbial infection will then have been destroyed.—*The Hospital*.

CURRENT TOPICS

SENATOR CAFFERY'S QUARANTINE BILL

The Hospital, in its issue of Jan. 8, 1898, criticizes Senator Caffery's Bill in a way that clearly shows the attitude of the British public toward quarantine regulations. After condemning the *Medical News* for editorially commending the bill, it says:

It does not surprise us that an ignorant population should stand on guard, at railway stations with loaded firearms, and should forbid trains to stop or passengers to alight, but it does surprise us to find a medical contemporary even appearing to admit that, "the paper plausibilities of quarantine" are able to confer some kind of degree of additional security upon States in the vicinity of those which may be visited by a yellow-fever epidemic.

The first proposals for quarantine date from the middle of the fourteenth century, and originated in the city of Milan, as a precaution against the Black Death. The example thus set was followed in Venice, where the first lazaretto was established in 1423, the disease then to be kept at bay being bubonic plague. Two centuries later the system was almost universal and had reached its full development, inasmuch that very elaborate regulations were formed and enforced in this country with reference to the plague which appeared so early as in 1636, and which committed such terrible ravages in London, and in some country districts, as at Eyam, between 1663 and 1666. These endeavors to exclude plague were as effectual, in the words of Sir John Simon, "as if their intention had been to bar out the east wind or the new moon;" but, notwithstanding this, the epidemic of cholera which prevailed in Europe in 1831 found not only the populace, but even the sanitary authorities of this country, prepared to trust in quarantine as their supreme hope. As the Government could only control the regular channels of trade or passage, all persons of influence resident on the coast, and particularly in retired villages, were urged to impress upon their neighbors the dangers of intercourse with smugglers and other evaders of quarantine.

It might have been thought that this very injunction would of itself have been sufficient to prove to those who issued it the utter futility of the whole proceeding.

The Government was able to interfere just so much as to cause the maximum of inconvenience and loss to healthy people,

and the maximum of injury to trade; and, when this was done, they were unable to touch so much as the fringe of the innumerable points of leakage, which even the best organized system of quarantine must leave wholly unprovided for.

Notwithstanding the quarantine, the disease was not only introduced, but it spread with terrible rapidity, and produced a mortality of many thousands, the precise amount of which it would now be impossible to ascertain. Taught by experience, the General Board of Health, in 1849 and 1852, strenuously pointed out that quarantine could not give any but a false security for the purpose it pretended to accomplish; and, adducing illustrations of its futility and oppressiveness as commonly administered, boldly proposed, as a practical conclusion, that this country should entirely set aside its existing quarantine establishments, and should rely exclusively upon the protection it could derive from a system of local sanitary improvements.

Our present method is to admit disease freely, but to be on the watch when it comes. If plague or yellow fever were brought to any English port, the actual sick would be landed and placed in a proper hospital for the reception of infectious cases; the sound would be permitted to proceed to their several destinations, the sanitary authorities of which would be instructed to keep them under observation until all danger was past, and to send them to hospital if the disease should show itself in them; and the ship and its cargo would be subjected to disinfection. When we had quarantine, plague and cholera were not only introduced, but destroyed their thousands. During the last European epidemic, cholera was introduced into many of our ports, and it fizzled out as harmlessly as a lighted match on a stone floor.

A CONTRIBUTION TO THE STUDY OF BLEEDING STIGMATA

In the *Jour. of Cut. and Gen.-Urin. Dis.*, for December, 1897, Dr. James Nevins Hyde relates the history of several cases of this affection coming under his notice. He says that in the records of medicine is to be found a relatively small group of cases in which spontaneous hemorrhage is reported as occurring from the cutaneous surface.

The first case was a well-developed man 46 years of age; married; one healthy child. Never had been addicted to the use of tobacco or alcohol, no venereal disease nor history of previous illness. Family record was good. Clergyman by profession. All his bodily functions were well performed.

During the repairing of the rectory he

imagined he had been poisoned by the fresh paint. Shortly after the scalp and face were the site of itching and pustulo-crustaceous lesions. A diagnosis of dermatitis venenata was made, but unfortunately the word "syphilis" had been on the lips of the physician who attended him; his fear of this disease caused his exceedingly nervous condition, which lasted for two or more years, rendering him unable to continue his profession, and reducing his weight from 180 to 150 pounds. His subjective symptoms were nausea and inappetence. The sites of the hemorrhages were capriciously selected. Examinations of the blood and skin revealed nothing of importance. The patient was placed upon a generous diet, and quinine and iron administered. His rest and exercise were carefully controlled; constipation was relieved; subsequently his health was gradually restored.

The most significant factor in this result was the restoration of hope in the mind of the man himself. W.

ON THE CAUSE OF DEATH BY ELECTRIC SHOCK

Thomas Oliver and Robert A. Bolam (*Brit. Med. Jour.*, No. 1933, p. 132) have made a number of experiments to determine the cause of death from electric current. The animals employed in their research were dogs and rabbits. They found that exposure to electric currents of sufficiently high potential caused death, practically speaking, instantaneously. The animal was thrown into a condition of opisthotonos, during which breathing is suspended. The heart-beat momentarily quickened and then arrested, while with currents of somewhat higher potential still, it is immediately arrested without any preliminary quickening. On shutting off the current there occurs a deep inspiration usually followed by an expiratory cry. Dogs, through which a powerful electric current has been passed, may on breaking the circuit, not only breathe spontaneously and rhythmically for several seconds (even a minute or two) but bark loudly, and yet all the time the heart has ceased beating. While in some of the authors' experiments, death seemed to be due to contemporaneous cessation of the respiration and heart's action, yet in most there was ample demonstration that the organ first to be arrested was the heart, for breathing was observed to continue rhythmically for a brief period, and then irregularly and feebly before stopping. Only in the case of very high voltages with currents considerably above the potential usually required to kill the animal is there simultaneous stoppage of heart and respiration. Under no

circumstances did the authors succeed in causing primary arrest of respiration followed by failure of the heart. The authors made preliminary experiments with many cardiac tonics to secure resuscitation in apparent death from electric shock. They also endeavored to excite contraction of the arrested heart in various ways by stimulation, by relief of the overloaded cavities. They succeeded in resuscitating two animals apparently dead from electric shock by means of artificial respiration once after an interval of twenty minutes.

THE RISE AND PROGRESS OF DERMATOLOGY

The *Ind. Med. Jour.* copies in full from the *Brit. Med. Jour.* the address of Dr. Malcom Morris at the opening of the Dermatological Section, at the sixty-fifth annual meeting of the British Medical Association of 1897.

The history of dermatology is reviewed from the earliest decades. Dr. Morris says that dermatology, although its victories have been perhaps less showy than those won in other special departments, has not lagged behind in the onward march of medicine. The centenary of the birth of scientific dermatology is not long passed. In 1790 Robert Wilian received the gold medal, he might justly be called the creator of dermatology. Before his time the skin was looked upon as a mirror on whose face internal disease "glassed itself in tempest."

In 1808 Wilian published his first treatise on cutaneous diseases. At his death he left behind him a disciple, Thomas Bateman, who completed Wilian's unfinished "Delineations of Cutaneous Diseases," and also published a treatise of his own. In 1851 one of the landmarks in the English school of dermatology was published, namely, Erasmus Wilson's "Diseases of the Skin." Wilson's influence predominated for a long time among his own countrymen and those of other nations.

The greatest living author of the British school of dermatology is Mr. Jonathan Hutchinson.

The first work on dermatology published in France was in 1800, when Alibert published his "Descriptions des Maladies de la Peau observées à l'Hôpital Saint Louis." This was followed in 1831 by Rayer. After this a number of books were published in France by Cazenave, Gibert, Devergie, etc. Among the present French masters of dermatology might be mentioned Hardy, Vidal, Besnier, Brocq, Darier, Thibierge, Wickham.

1844 marked the beginning of a new era in the study of disease of the skin, when the

master-work of the German Ferdinand Hebra made its appearance before the scientific world. That remarkable man breathed a new life into the dry bones of dermatology and set it on a path of progress which has already led to great results. If Wilian was the creator Hebra must be acknowledged as the greatest among the reformers.

The history of dermatology in America has been written by Professors White and Duhring. For the first thirty years of the present century little or no interest was taken in cutaneous affections in America. In 1845 appeared the first American work on dermatology by N. Worcester, Professor of Physical Diagnosis and General Pathology in the Medical School of Cleveland. The book is little more than a compilation from the French and English dermatologies of the day.

In 1836 an infirmary for diseases of the skin was opened in New York, and lectures on skin-diseases were delivered in some of the medical schools of New York between 1837 and 1854 by Dr. H. D. Bulkley, father of the eminent L. D. Bulkley.

The first regular course of lectures were delivered in the Medical School at Harvard, in 1859, by Prof. James C. White.

In 1871 Professor White complained that, as yet, America had contributed little to dermatology, and that this branch of medicine had hardly then found a place among his countrymen as an acknowledged specialty.

Now this reproach has been wiped away, and American dermatology represented by Duhring, White, Bulkley, and others, is recognized as being in the van of progress.

W.

RATIONAL ETHERIZATION

Dr. Walter Brook Brouner condemns in the severest terms the so-called "force method" of etherization employed by some physicians (*Med. Rec.*, Jan. 29, 1898). He says that no man should count himself thoroughly competent to administer an anesthetic, ether especially, until he has had the same anesthetic administered to himself. There should be a sympathetic bond between the anesthetizer and the patient. It is difficult, he says, to give expression to the awful sense of impending dissolution—the mental agony that seizes upon one in the futile struggle for air—more air! as the cone is held tightly over one's face and one is held in a vise-like grip of a sturdy attendant, who, octopus-like, embraces you, while you are being rapidly and forcibly smothered—technically asphyxiated. A more in-

human, a more revolting picture is hard to conceive. The author's conclusions are as follows:

1. Etherization should be intrusted to experienced hands only.

2. A special cone is not necessary for successful etherization. The simpler and less complicated the apparatus the better.

3. The so-called "force method" of etherization is unnecessary, crude, and oftentimes injurious.

4. Vastly better results are obtained by a gradual, quiet administration.

5. The amount of ether employed should be minimized, and preferably given drop by drop after anesthesia has been fully established.

6. The evil sequelæ are directly proportionate to the amount of ether employed, and indirectly proportionate to the duration of the anesthesia.

7. The so-called baneful effects on the bronchi, stomach, and the kidneys are largely overestimated and in a large degree controllable.

8. Women require a smaller amount of ether, though a longer time to produce anesthesia, than men.

9. Alcoholic subjects require a longer time and amount of ether to produce anesthesia and to maintain it. R.

A PAGE IN THE HISTORY OF MEDICAL EDUCATION FROM COLONIAL TIMES IN NORTH AMERICA

Dr. C. N. Ellinwood (reported in the *Occidental Med. Times*, Vol. XI, No. 12) read a paper upon medical education before the San Francisco Medico-chirurgical Society which contained the following historical relic from the year 1733 (thirty-two years before the first medical school was established in this country).

It is a quaint old parchment of an indenture of an apprentice to a physician in Marlboro, twenty miles from Boston. The document reads:

This Indenture Witnesseth, That Hollister Baker, a minor, aged about sixteen, son of Mr. Edm'd Baker, late of Marlborough in the County of Middlesex, gent, deceased, Of his own free will and accord and with the consent of Benj'n Woods, of Marlborough, in county aforesaid his guardian, doeth put and bind himself to be an apprentice unto Benj'n Gott, in the county aforesaid, physician, to learn his art, trade, or mystery, and with him the said Benj'n Gott, after the manner of an apprentice to dwell and serve from the day of the date hereof, for and during the full and just term of five years and four

months next ensuing, and fully to be compleat and ended. During all which said term the said apprentice his said master and mistress honestly and faithfully shall serve: their secrets keep close; their lawful and reasonable commands everywhere gladly do and perform. Damage to his said master and mistress he shall not willfully do; his master's goods shall not waste, embezel, purloin, or lend unto others, nor suffer the same to be wasted or purloined; but to his power shall forthwith discover and make known the same to his said master and mistress.

Taverns nor alehouses he shall not frequent, or cards or dice, or any other unlawful games he shall not play. Fornication he shall not commit, nor matrimony contract with any person during said term. From his master's service he shall not at any time unlawfully absent himself, but in all things be as a good, honest, and faithful servant and apprentice shall bear and behave himself towards his said master during the full term of five years and four months, commencing as aforesaid.

And the said Benj'n Gott for himself doeth covenant, promise, grant, and agree unto and with his said apprentice in manner and form following, that is to say, that he will teach the said apprentice, or cause him to be taught by the best ways and means that he may or can the trade, art, or mystery of a physician, according to his own best skill and judgment (if the said apprentice be capable to learn), and will find and provide for and unto said apprentice good and sufficient meat, drink, washing, and lodging, during said term, both in sickness and in health; his mother all said term finding said apprentice all his clothing, of all sorts, fitting for an apprentice during said term; and at the end of said term to dismiss said apprentice with good skill in arithmetick, Latin, and also in the Greek through to the Greek grammar.

In testimony whereof, the said parties to these said indentures have interchangeably set their hands and seals the eighth day of January, in the fourth year of the reign of our Sovereign, Lord George ye Second, by the Grace of God, of Great Britain, France, and Ireland, and in the year of our Lord one thousand seven hundred and thirty-three-four.

HOLLISTER BAKER. (Seal.)

BENJ'N WOODS. (Seal.)

BENJ'N GOTT. (Seal.)

Signed, sealed and delivered in the presence of—

JOHN MEAD.
ELIZABETH WOODS.
U.

SELECTED PAPER

PNEUMONIA: A MULTIPLE INFECTION *

By J. W. MOORE, M.D., M.Ch., B.A. Univ. Dubl., F.R.C.P.I.,

Diplomate in State Medicine and Ex-scholar Trin. Coll. Dubl.; Senior Physician to the Meath Hospital and County Dublin Infirmary; Professor of Practice of Medicine, Royal College of Surgeons in Ireland

IN a suggestive paper on "Varying Infection in Pneumonia," which was published in the *New York Medical Journal*, October 9, 1897, the author, Dr. W. H. Thompson, of the Bellevue Hospital, writes this: "Of late years lobar pneumonia often fails to follow the definite course commonly ascribed to it. While its onset remains much the same in its suddenness, and in the rapid development of its acute symptoms, yet for some time I have declined to fix the probable date of the crisis or the duration of its subsequent stages. It may be that the event in 1890-91 of the severest and most prolonged visitation of epidemic influenza recorded in history may have something to do with this change by contributing the influence of a mixed infection, but whatever be the cause, there is little doubt that acute lobar pneumonia now more often departs more widely from its former characteristic course. In the histories of a series of eleven cases occurring consecutively in my winter service in Bellevue Hospital, in only three of them could it be said that they conformed to the old-fashioned type, with a definite crisis and a progressive change for the better afterwards, while in three a partial crisis only occurred, and in five none at all. In eight out of the eleven the convalescence was very tedious, and marked by a variety of constitutional symptoms in which often the essentially toxic nature of the disease was strikingly indicated. Nothing could better illustrate than they did what a gain it was to modern pathology when lobar pneumonia was finally recognized as more an infection than an inflammation, and that its danger is due rather to systemic poisoning than to pulmonary damage. That infections by micro-organisms, however, should

* Read before the Medical Section of the Royal Academy of Medicine, Ireland

vary in their developments from time to time is what we should expect."

It will be observed from a close reading of the foregoing paragraph that Dr. Thompson inclines to the view that the varying phenomena presented by pneumonia in different cases probably depend upon a varying virulence of its supposed specific micro-organisms, the affection being regarded as an essential disease analogous to diphtheria, enteric fever, small-pox, or any other infective malady.

The micro-organisms in question are two: namely (1), the micrococcus of sputum septicæmia (Fraenkel), *Micrococcus pneumoniae crouposæ* (Sternberg) or *Diplococcus pneumoniae* (Weichselbaum), and (2) the pneumococcus (Friedlaender) or *Bacillus pneumoniae* (Flügge). The former is now generally recognized as the usual agent in the production of acute croupous pneumonia, or, as I much prefer to call it, pneumonic fever. It was discovered by Dr. George M. Sternberg, now Surgeon-General of the United States Army, in September, 1880, in the blood of rabbits inoculated subcutaneously with his own saliva. Talamon, in 1883, demonstrated the presence of this micrococcus in pneumonic sputum, while Sternberg himself, in 1885 identified it with the micrococcus in the rusty sputum of pneumonia by comparative inoculation and culture experiments.¹ In 1886 Weichselbaum published the results of his extended researches relating to the presence of this micrococcus pretty constantly in the fibrinous exudation of croupous pneumonia. He obtained it in ninety-four out of 129 cases examined (fifty-four times in cultures). To this observer we owe the name of *Diplococcus pneumoniae*, which serves to remind us that, as observed in the blood of inoculated animals, it is usually in pairs, consisting of oval or lance-oval elements (cocci), which are surrounded by a transparent capsule.

The second pneumonic micro-organism was obtained in 1883 by Friedlaender and Frobenius in pure cultures from the exudate into the pulmonary alveoli in cases of croupous pneumonia. Subsequent researches show that this microbe, in shape a short rod

with rounded ends—hence called *Bacillus pneumoniae* by Flügge—is present only in a small proportion of the cases—nine times in 129 cases examined by Weichselbaum, three times in seventy cases examined by Wolf, who pursued his studies in Weichselbaum's laboratory at Vienna.

Emmerich has demonstrated the presence of Friedlaender's pneumococcus in the soil of a room in which there were many pneumonia patients. The diagnosis was rendered certain by inhalation experiments with cultivations on eighteen mice, of which eight died by pneumonia. "Hence," says Flügge, "the soil seems to be one of the places where the pneumonia bacilli can be preserved, and whence, in suitable cases, they may pass into human beings."²

Flügge also says: "Friedlaender's bacilli are, without doubt, not the only cause of the pneumonic process. We are already acquainted with pneumonias which are caused by *aspergillus* and *actinomyces*; it is *a priori* not improbable that also among bacteria there are several other species which can set up pneumonia." Now this is the very point which I wish to enlarge upon in the present communication.

The subject may be considered from both an etiological—or, we might say, a bacteriological—and a clinical standpoint. Naturally, it is chiefly from the latter point of view that I have had opportunities of regarding the question. It is impossible, however, to ignore the bacteriological aspects of the case.

In support of Flügge's statement just quoted I propose to adduce evidence that the micro-organisms peculiar to erysipelas, to influenza, to tuberculosis, and to enteric fever may one and all give rise to a specific pneumonia or pneumonic fever. So also may Loeffler's diphtheria bacillus and the bacillus of malignant anthrax, as well as other pathogenic bacteria.

I.—ERYSIPELAS.

In the form of this disease, which has been called "erratic," or "vagrant erysipelas" (*erysipelas migrans*)—the *erysipèle ambulante* of French writers—the attack may be protracted for one or two months. In such cases, not only every part of the surface of

the body, but the whole tract of mucous membranes, and even the lungs and pleuræ, may in turn become affected. Dr. Peter,³ of Paris, has drawn attention to the spread of erysipelatous inflammation from the pharynx to the respiratory passages, causing in sequence bronchitis, bronchiolitis (capillary bronchitis), and pneumonia.

In a case observed by me at Cork Street Fever Hospital many years ago the converse of this happened. A man was admitted suffering from pneumonia migrans. After some days a blush of erysipelas showed over one shoulder, and spread thence down the back, with the interesting result that simultaneously the pneumonic symptoms subsided. So great was the impression made upon me by this case that ever since I have recognized the propriety of looking upon erysipelas pulmonum as a distinct species of the great genus pneumonia.

The teaching of Levy,⁴ of Strassburg, that *Streptococcus pyogenes* is an exciter at once of suppuration and of erysipelas is now generally accepted. This pyogenic bacterium was obtained by Fehleisen from the skin involved in cases of erysipelas in 1883, and by Rosenbach and Passet from the pus of acute abscesses within a year or two afterwards. Sternberg gives the following synonyms for *Streptococcus pyogenes*: *Micrococcus* of erysipelas (Fehleisen), *Streptococcus erysipelatosus*; streptococcus of pus, *Streptococcus longus* (von Lingelsheim).

If, then, we admit the identity of the pus-producing streptococcus with that of erysipelas, we at once obtain a key to the occurrence of an acute pneumonia in erysipelas; for this very bacterium—the *Streptococcus pyogenes*—plays a part that is second to none in the production of influenza pneumonia, to which I will now direct your attention.

II.—INFLUENZA.

In the great epidemic of 1889-90 in Dublin, it was my lot to see fatal cases of influenzal bronchitis, pneumonia, pleuritis, and heart-failure. In a paper on the epidemic, read before this Section on February 28, 1890, I wrote as follows: "The pneumonia (of influenza), while producing the ordinary physical signs of acute croupous pneumonia, is often latent in its course, or ac-

companied by a profuse muco-purulent expectoration, with scarcely any rusty sputa. The ebbing of the strength in some of these cases in elderly people is something awful—it is often absolutely beyond control." The fact is that influenza, infrequently directly fatal, causes an indirect loss of life which is appalling, chiefly through the complications affecting the respiratory organs and the heart, which have just been mentioned.

It will be remembered that, after the great pandemic of influenza in 1889-90, German medical literature in particular was flooded with writings upon the clinical, pathological, and bacteriological aspects of the malady. In the *Dublin Journal of Medical Science* for May, 1890,⁵ and August, 1890,⁶ will be found reports on the bacteriology and pathological relations of influenza, which I prepared from current German medical literature. From these reports I cull the following facts:

Leyden, in a communication to the Medical Society of Berlin,⁷ states that the pneumonias observed by him showed a peculiar course; severe pain in the side and dyspnea were rarely noticed; the local process was not altogether typical; frequently it was necessary to watch for three or four days before any evidence of a localization of the disease was forthcoming. Then a crepitation râle was heard over a wide area, and this perhaps the very next day would have disappeared to show itself in some other situation. Not very often a fine hepatization occurred with clearly mapped-out dulness. Again, the typical sputum of pneumonia was often wanting. Bacteriological investigations revealed the presence of three kinds of microbes:

1. Diplococci, which represented the well-known pneumonia diplococci of Fraenkel.
2. Streptococci.
3. Staphylococci.

Leyden adopted the view that the forms of pneumonia are different: typical genuine pneumonias with deviating course; mixed forms, especially in those combined with pleural effusion; lastly, simple streptococci pneumonias.

Ribbert,⁸ discussing the possibility of a casual significance of the *Streptococcus pyo-*

genes in relation to the phenomena of influenza, alludes especially to the inflammations of the lungs, whose peculiar erysipelas-like spread, on which Finkler lays so much stress,⁹ and whose anatomical relations admit of being referred back to the influence of the streptococcus. Ribbert points out¹⁰ that, in contrast to ordinary croupous pneumonia, the cut surface of the hepatized lower lobe in three cases presented an almost smooth appearance, and poor in fibrin (hypinosis). Cultivation experiments with the tracheal mucus, the lung-tissue, the spleen, and the kidneys, furnished in five out of eight cases the *Streptococcus pyogenes*, or else the *Streptococcus erysipellatosus* (which has been shown to be identical with the former), the presence of which microbe could be demonstrated in the sputum also of the influenza patients. His investigations on the whole yield the result that in all cases in which micro-organisms were at all capable of demonstration the *Streptococcus pyogenes* was found. Only once was there in addition a coccus, which had a great resemblance to the *Diplococcus pneumoniae*, and probably represented a modification of the same.

Finkler¹¹ observed forty-five cases of influenzal pneumonia, of which only two came under the description of typical lobar pneumonia, while the other forty-three were regarded as cases of the disease which he has often described as "streptococcus pneumonia." Seven of his patients died, post-mortem examinations being made in three instances. He regarded the pathological condition as a preponderating cellular inflammation with participation of the interstitial tissue. The cellular nature of the inflammation, together with the pronounced tendency it exhibits to develop by spreading indefinitely, in Finkler's opinion justified him in describing this disease as an erysipelas of the lung. He points out that the resemblance of this form of pneumonia to erysipelas consists not alone in the anatomical characters of the inflammatory process, but also in the fact that both diseases depend on the presence of streptococci. Finkler looks upon this streptococcus pneumonia as a localization of the exciting cause of in-

fluenza in the lungs. As to this last point, I should be more inclined to agree with Leyden¹² and Levy,¹³ that the question is much more one of a secondary infection, for which the influenza merely laid the foundation. Certainly the discovery by Pfeiffer, in 1892, of the *Bacillus influenzae* in the purulent bronchial secretion, and by Canon in the blood of patients suffering from epidemic influenza, must be regarded as conclusive proof of the existence of a specific primary infection to which all other infections are accidental and secondary.

III.—TUBERCULOSIS.

It is not my intention here to allude to acute tuberculosis fever (in which the lungs may escape unscathed), on the one hand, or on the other to the local peripneumonic processes which accompany sporadic depositions of tubercle in the lungs in ordinary catarrhal phthisis. Nor will I refer to those cases in which in the wake of an acute primary croupous pneumonia the wounded lung falls a ready prey to a secondary infection by the *Bacillus tuberculosis*, when this micro-organism finds a fertile soil in the caseating exudation of an unresolved pneumonia. These several conditions are all beside the present question.

My concern is with acute phthisis, or scrofulous pneumonia, and the so-called acute tuberculo-pneumonic phthisis. Dr. C. Theodore Williams thus describes acute phthisis¹⁴: "The patient, generally young, who may have had cough previously, is attacked with sharp pain in one side of the chest, quick pulse, high temperature, the skin being quite burning to the ear of the auscultator, alternating with night chills and sweats. The general appearance betokens pneumonia, but the crepitation commences at the apices, extending to the whole lungs, and is not so fine and even as in pneumonia. The cough increases; the expectoration becomes opaque and purulent, containing quantities of lung-tissue and swarms of tubercle bacilli; and the temperature assumes the intermittent type. The physical signs show at first gradual consolidation of both lungs, but later on indicate that excavation has taken place; and continues, the patient rapidly

wasting and dying in a few weeks." In this disease the inflammatory nature of the lesions in the lung or lungs, and the rarity of miliary tubercle, are among its characteristics.

Acute tuberculo-pneumonic phthisis likewise presents consolidations in the lungs of a pneumonic origin, but tuberculization, as well as pneumonia, exists.

In both these varieties of "consumption" we have examples of true pneumonia resulting from an infection by the *Bacillus tuberculosis* of Koch.

IV.—ENTERIC FEVER.

It is well known that pneumonia is more commonly observed as a complication in enteric fever than in typhus. Murchison noted it in thirteen out of 100 cases, and Austin Flint (according to Bartlett¹⁵) in twelve out of seventy-three cases. It commonly occurs in the third or fourth week, but may usher in the disease. In this latter case its presence is probably an indication that the enteric-fever poison has entered the system through the lungs. It is most commonly a lobular pneumonia, but occasionally it occurs under the form of ordinary croupous pneumonia.

It is indeed true that Eberth points out¹⁶ that anatomical investigations had up to 1881 afforded no evidence of the admission of the *Bacillus typhosus* through the lungs. With this Gaffky¹⁷ does not agree, for he considers it highly probable (or, at least, the possibility cannot be contested) that the lungs may occasionally represent the seat of invasion. Eberth himself quotes a case observed by W. Meyer,¹⁸ of Berlin, in which death ensued on the second day of illness. In this case there was found at the necropsy hyperemia of the lungs, spleen, and kidneys; in the lower portion of the ileum marked swelling of the solitary follicles and Peyer's patches. Microscopical examination revealed a very exceptionally large deposit of Eberth's bacilli in the cells of the submucosa and in the intermediate muscular layers of the intestine. Apparently they were not found in the lungs, notwithstanding their hyperemic condition.

That, in infective diseases in general, infection may occur through the mucous mem-

branes of the respiratory tract has been demonstrated, according to Sternberg,¹⁹ by several bacteriologists—especially by Buchner, who caused mice and guinea-pigs to breathe an atmosphere containing in suspension a powder consisting of dried anthrax spores mixed with lycopodium powder, or pulverized charcoal. In a series of sixty-six experiments, fifty animals died of anthrax, nine of pneumonia, and seven survived. Microscopical examination of sections and culture experiments showed that the lungs were extensively invaded. It may be objected that these results do not bear on infection by the *Bacillus typhosus*, which is believed not to assume the spore form. Positive results were, however, also obtained by Buchner with cultures of the anthrax bacillus not containing spores, which the animals were made to inhale in the form of spray. But in this case a considerable quantity was required, and a sero-fibrinous pneumonia was usually produced, as well as a general infection. "That man may be infected with anthrax by way of the respiratory organs," writes Sternberg,²⁰ "seems to be well established. In England the disease known as 'wool-sorters' disease,' results from infection in this way among workmen engaged in sorting wool, which is liable to contain the spores of the anthrax bacillus when obtained from the skin of an animal which has fallen a victim to this disease. That infection occurs through the lungs is shown by the fact that these organs are first involved, the disease being, in fact, a pulmonic anthrax."

Even if we take it as not yet proved that infection in enteric fever may occur by way of the lungs, there is no doubt that a close correlation exists between this disease and that variety of acute pneumonia, or pneumonic fever, to which the term "pythogenic pneumonia" has been commonly applied since 1875, when Dr. Grimshaw and I read a paper on the subject before the Medical Society of the College of Physicians of Ireland.²¹ Towards the end of October, 1882, the following remarkable outbreak of disease came under my notice:

On the 12th of that month a lad, aged 13, was admitted into Cork Street Fever Hos-

pital from 6 Malpas street, Dublin, suffering from croupous pneumonia. Malpas street is very unhealthy; the houses are old and dirty, ill-drained and dilapidated. The street runs down to the bottom of a valley, through which a small tributary of the Poddle River flows sluggishly. The district is a prolific hotbed of disease. On October 31 the boy's father (J. C.), a boatman, aged 36, came in with the same disease. On the 20th of the same month two girls, both aged 14, were admitted to the Meath Hospital in enteric fever—one from 11 Malpas street, and the other from No. 13. On November 27 a girl, aged 20, was admitted to Cork Street Hospital in enteric fever from 7 Malpas street, next door to the house from which the two cases of pneumonia had come a few weeks previously. On December 12, J. C., aged 36, was again admitted to the Meath Hospital from 6 Malpas street, with "renal dropsy." It was he who suffered from pythogenic (?) pneumonia in the previous October as narrated above. Another coincidence occurred in March, 1883. On the 18th of that month W. N., aged 19, came into Cork Street Hospital from 6 Malpas street in an attack of "febricula," and the following day A. L., aged 27, was admitted from the same house with left basic croupous pneumonia.

A very similar instance of the correlation existing between enteric fever and pneumonia came under my observation in the autumn of 1881. Four cases of illness occurred in a training college in Dublin within a few weeks. Two of the four patients suffered from true enteric fever; a third from an attack of acute gastro-intestinal catarrh, or, as some may think, from an abortive enteric fever; and a fourth from acute pneumonia, reminding one of Laennec's "epidemic pneumonia," which in recent times has received the names of "sewer-gas pneumonia" and "pythogenic pneumonia." The drinking water was proved by Sir Charles A. Cameron to be the source of the sickness in all four cases.²²

In November, 1891, there came under my care in the Meath Hospital a young woman with characteristic typhoid stools, and whose urine gave a striking reaction with Ehrlich's diazo-test. Her illness, however, had commenced with right-apex pneumonia, with rapid breathing, cough, glutinous expectoration (not indeed deeply colored when the patient was first seen by me), dullness of percussion, and, finally, the most typical crepitus reflux.

One of the reasons which weighed with me in undertaking to make the present communication to the Royal Academy of Medi-

cine was the remarkable tendency to a pneumonic element in enteric fever which has shown itself in Dublin during the present season. It will be remembered that the end of August and beginning of September proved both wet and cold, while the air-temperature continued below the average through the greater part of September.

These atmospheric conditions were doubtless the prime reason why the epidemic enteric fever assumed the so-called thoracic form. I venture to submit brief notes of two cases in illustration of this statement.

Case I.—R. A., aged 40, a bootmaker, was admitted to the epidemic wing of the Meath Hospital, from New street, on September 17, 1897, on the eighth day of his illness. His evening temperature was 104.3°, pulse 100, respirations 32-36. When I saw him next morning I found him suffering from acute catarrhal laryngitis; the base of the left lung was quite dull, with the other signs of consolidation. He was expectorating a viscid sputum from which the rusty color was already quickly disappearing. There was active diarrhea, the daily number of motions varying from three to seven. Forty-eight hours after admission, profuse intestinal hemorrhage occurred, after which the attack ran the usual course of typhoid fever, with laryngeal and pulmonary trouble ("laryngo-typhus" and "pneumotyphus"). Laryngeal examination by Dr. Richard Lane Joynt revealed a severe catarrh. The chart is a characteristic one of enteric fever, but the rapidity of the respirations sufficiently indicates the severity of the pulmonary lesion. In convalescence the patient suffered from boils as a secondary infection.

Case II.—J. B., aged 22, a domestic servant, was admitted to the epidemic wing of the Meath Hospital, from Ranelagh, on September 15, 1897. She was then a week ill. She was sent in as suffering from acute pneumonia, and the physical signs of left basic lobar pneumonia were present. She breathed from forty to forty-four times a minute, while her pulse at first did not exceed 100, although some days later it rose to 120. The temperature was only 101° on the evening of her admission, but gradually rose until the evening of the twelfth day of her illness, when it reached 104.3°. For days the patient's condition was extremely unsatisfactory, and in appearance and physical signs the case strongly resembled acute phthisis or "scrofulous pneumonia." However, she gradually emerged from the fever, the evening spiking of the tempera-

ture subsiding after the twenty-fourth day. She left the hospital for the Convalescent Home at Bray, on October 22, the forty-fifth day from the commencement of her attack. At that time the state of her left lung remained far from satisfactory, though it was fast improving. There was still dullness on percussion over the base, the breath and voice sounds were feeble, and some effusion still existed in the pleura.

These cases are types of the forms which enteric fever assumed in the unseasonably cold after-summer of the present year. That the lung-attacks were the outcome—direct or indirect—of a specific poisoning by Eberth's bacillus can scarcely be doubted. This poisoning may, it is true, have been secondary to a localization in the intestine, although the fact that in each case the lung trouble occurred at the outset of the fever points with much force to a primary localization in the lungs. However that may be, the presence of an acute pneumonia in each case must be conceded.

Drs. Muir and Ritchie, writing in 1897,²³ say that most observers will agree with Gaffky in attributing any failure to find typhoid bacilli in the organs of a typhoid patient to the difficulties of the search.

These writers further state that in the lungs there may be patches of congestion and of acute bronchopneumonia. In these, typhoid bacilli may sometimes be observed, but evidence of a toxic action depressing the powers of resistance of the lung-tissue is found in the fact that pneumococcus is frequently found in such complications of enteric fever.²⁴ As to this, I repeat that the very early appearance of pulmonary trouble in a certain proportion of these cases which ultimately prove to be undoubtedly enteric fever is altogether in favor of a primary infection with the *Bacillus typhosus* by way of the lungs. A pneumonia brought about through lessened resistance to the specific micro-organisms of this disease caused by the toxic action of the typhoid bacillus on the system in general, including the organs of respiration, would be much more likely to develop in a more advanced stage of the fever.

In conclusion, I venture to submit that there is clinical evidence to show that a true pneumonitis may occur in any one of the

four diseases with which this communication deals—that is to say, erysipelas, influenza, tuberculosis, and enteric fever. Further, it is reasonable to suppose that in each case the pneumonitis is directly due to a localization of the specific poison of the disease in the lung, whether that poison be a micro-organism itself, or a toxin derived therefrom. Indeed, in respect of three out of the four diseases named, the evidence, from a bacteriological standpoint, in favor of such a view is incontrovertible.

As regards enteric fever, the influence of season and weather in determining pneumonic trouble is, no doubt, considerable; but it cannot be accepted as paramount or exclusive. And, if it is objected that the *Bacillus typhi abdominalis* of Eberth has not as yet been often found in the lungs or sputum of enteric-fever patients, I am justified in attributing this to the comparative infrequency with which, so far, search has been made for these bacteria in the pulmonary organs. Here, in any event, an almost untrodden path of investigation lies open to the adventurous footsteps and the keen perception of our Irish pathologists and students of bacteriology.—*British Medical Journal*.

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Professor Parvin has never seen a case of lacerated cervix which called for interference because of a hemorrhage.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Clinical and Pathological Study of Acromegaly

In the *Archiv. per le Sci. Med.* (Vol. XX, Fasc. 4), Dr. E. Comini reports a number of cases of acromegaly. In the first case the objective symptoms were marked, but the subjective headache was the only other symptom. The second case presented disturbance of vision, insomnia, paresthetic symptoms about the arms. All of the symptoms were improved under thyroid therapy. A third case had a marked peripheral neuritis, with consequent muscular atrophy. Upon autopsy this case showed cerebral edema with pial congestion. The pituitary was enormously enlarged, the thyroid gland decreased but slightly; there was no persistent thymus. Microscopically there were changes in the hypophysis, in the thyroid, and in the peripheral nerves, especially the radial. J.

Some of the Intestinal Features of Typhoid Fever

Prof. Wm. Osler (*Phila. Med. Jour.*, Vol. I, p. 60) believes that the view that the key to the situation in treating typhoid fever is to be found in the intestines, and that the disease is to be regarded as of an enteric rather than a systemic character, is wrong both in principle and practice. During 1897 he gave special attention to the intestinal symptoms of the cases under his care, ninety-nine in number.

Symptoms of Onset.—Pain in the bowels was complained of in twenty-three cases. It was rarely severe. In forty cases there was looseness of the bowels or active diarrhea, and twelve of these had taken purgatives. The author believes that while gentle laxatives are not specially contraindicated, free and active purgation at the onset of the disease is decidedly harmful, and there is truth in Graves' remarks that "patients who have escaped active purgation before admission to hospital get through the disease with little or no tympanites."

Intestinal Symptoms During the Course.—Eleven of the ninety-nine cases complained of pain in the abdomen after admission. With the exception of a few doses of turpentine for tympanites or measures directed against hemorrhage or active diarrhea, the author abstains from active interference. Diarrhea occurred only in twelve

cases, but in none was it severe enough to require treatment. In his experience cases with constipation do better than those with diarrhea. Slight distension of the abdomen was present in eight cases, and hemorrhage from the intestines in five.

Intestinal Features of Convalescence.—By far the most frequent and annoying is constipation, which is often the cause of a slight rise in fever. The use of castor-oil or of enemata of warm sweet oil will usually suffice to relieve it.

Gummata of the Heart in a Case of Congenital Syphilis

Dr. C. R. Le Count (*Jour. Am. Med. Asso.*, Vol. XXX, p. 181) reports a lesion very infrequently observed, viz.: Gummata of the heart as a feature of congenital syphilis.

A child born at term, of young parents, died almost immediately following birth. The anatomic diagnosis from the micropsy was congenital syphilis, syphilitic interstitial pneumonia (nodular), syphilitic osteochondritis, gummata of the heart, pustular syphilides of the skin, multiple abscesses of the skin, multiple abscesses of the thymus, hyperemia of the liver and spleen.

On the anterior surface of the heart, midway between the base and the apex, involving that part of the ventricular wall which faces toward the left, and also overlapping the ventricular septum, was a white area, quite circular in form and measuring approximately 1 cm. in diameter. The edge of this white area fused gradually with the adjacent heart-tissue, and on section appeared less firm than the unchanged myocardium. It was seen to involve the entire thickness of the ventricular wall, spreading out now as it approached the pericardium, which was unchanged except in color. Microscopic examination showed multiple foci of interstitial myocarditis with leucocytic invasion, areas of degeneration of the myocardium, and the occurrence of multinuclear cells in gummatous areas.

Convulsions in Children

According to C. G. Kerley (*Trained Motherhood*, Sept., 1897) convulsions are a symptom, not a disease, and they mean that there is something wrong, gravely wrong, somewhere in the body. The convulsions due to central disturbances, as in pneumonia, meningitis, intestinal disease, high fever, and perhaps toxemia, occur during illness, are not unlooked for, and are of much less frequent occurrence than those due to reflex causes. This form interests us more particularly, as it is the variety which

appears during health or slight illness, and takes the family unawares. They are commonly known as idiopathic convulsions, not being caused by or dependent upon a diseased condition, being usually the result of an irritation, either within or on the outside of the body. High fever and toxemia also often play an important part in these cases. The primary factor is, generally, an irritation in the gastro-intestinal tract, usually due to unsuitable food or senseless indulgence. The attacks occur in the badly fed bottle-babies or in those beyond the bottle-age who had been fed irregularly, or in quality and quantity unsuited to their ages. The majority of the cases seen by the author were between the twelfth and twentieth months, the period during which promiscuous feeding is ordinarily first indulged in. The youngest patient was two weeks old at the time of seizure, the oldest six years. But four cases were seen as initial symptoms in well-managed breast-fed babies, and these were due to grave central disturbance. The delicate, the nervous, and the rachitic are predisposed, for the reason that in these subjects the nerve-centers share in the general debility. Undue stress has been laid upon dentition and worms as causes of convulsion, the author having seen but one case of this nature. Teething children are predisposed to greater intestinal derangement, acute attacks of indigestion being thus easily excited, so that dentition may be considered indirectly a factor. This opinion is based on a study of nearly three thousand children who cut their teeth while under his care. Burns, phimosis, and heat-prostration also frequently cause convulsions. The point of heredity is sometimes referred to, the children of the neurotic and epileptic being predisposed. Besides those occurring during brain-disease, a number develop during whooping-cough, complicated with broncho-pneumonia, and several cases during measles, scarlet fever, diphtheria, and Bright's disease. Cases of serious intestinal disease not infrequently have convulsions late in the illness, death frequently occurring during the attack. As regards the idiopathic convulsion, which came on during apparent health or slight illness, fully 95 per cent. were due to some disturbance in the stomach or intestines. Under proper management the death from such causes can be reduced to a minimum. The patient should be at once placed in a hot mustard-bath, the temperature of the water not exceeding 112° F., the water covering all parts but the head. On the head should be placed cloths saturated with cold water, the colder the better, the duration of the bath depending upon the severity of the

case, though it is advisable not to continue it any longer than twenty minutes in any case. The heat must be retained by the addition of warmer water. Should the child fail to respond, he should be removed, rubbed dry vigorously with a bath-towel, and the bath repeated. When consciousness is regained, castor-oil and an enema of soap-water should be given. If it is known that forbidden articles of diet were indulged in an emetic dose of ipecac should precede the castor-oil. Where the case proves a severe one, in that the convulsive seizure is prolonged, more direct measures can be resorted to. In those having had one attack extreme care and watchfulness are necessary, particularly as to diet, as it requires less disturbance to be thrown into the second, and still less the third. L.

Atrophy of Both Optic Nerves Following the Treatment of a Burn with Iodoform

At the October meeting of the Société de Biologie (*Aertz. Rund.*, VII, No. 45), Dr. Terson reported the following case: A woman 48 years of age spilled some burning oil over her thighs and abdomen; the severe burns were treated with iodoform. Three weeks later, without any other symptoms of iodoform-intoxication, a progressive bilateral amblyopia came on, which resisted all treatment. Dr. Terson calls attention to the observations made by Mooren and by Wagenmann, that optic neuritis and retinal hemorrhages sometimes occur after severe burns, where no iodoform had been used. On the other hand, the observations of Valude, Hirschberg, Hutchinson and others prove conclusively that toxic amblyopias may follow the use of iodoform (without a burn), sometimes with and sometimes without a permanent lesion in the eye-structures. R.

The Alterations Produced in Muscle by *Trichina Spiralis*

The alterations produced in muscles by trichinæ were studied by Dr. O. Ehrhardt (*Beitr. z. path. Anat. u. allg. Path.*, XX, 1, p. 43) upon more than thirty trichina-infected rabbits. First of all it was noted that not only those fibers containing trichina showed alterations, but that the neighboring fibers also showed like changes. About each trichina is an inflammatory area which is produced by the metabolic products of the parasite. An alteration, however, which only occurs in the fibers containing the trichina, is granular degeneration. It always attacks a part of the fiber only. Waxy degeneration always occurs, but only in the neighborhood, not in the

fibers holding the trichina, and never before the fifteenth day after infection. These fibers often show fissure-formation; the fissures are invaded by leucocytes and wandering cells of connective-tissue origin. These cells increase in number, gradually destroy the waxy mass, and finally undergo fatty degeneration; the fiber now begins to regenerate. A third alteration, which also affects fibers containing no trichinæ, is hydropical degeneration, which begins about the thirteenth day but disappears about the twenty-fifth day. Vacuoles originate from small spindle-shaped fissures between the muscle fibrillæ; these separate the fibers more and more, causing loss of the transverse striation. Finally, the sheaths are partially destroyed. Sometimes cells wander, but usually the fluid is simply absorbed. The last alteration which is observed is fatty metamorphosis.

The behavior of the nuclei was also observed. They are unusually increased in number, so that they project into the interior of the fibers. Regarding the nature of their formation it was noted that at first direct nuclear division prevailed, and at the height of development this process has advanced so far that often more than thirty nuclei are seen arranged behind each other. Sometimes the muscle nuclei also grow out into long, rod-shaped bodies without breaking up into daughter nuclei. Sometimes the nucleus divides in its long diameter, giving rise to blackberry-like groups of single nuclei. Mitotic division is decidedly less common here; at least it occurs at a later date. Apparently it can also be associated with direct division. Pluripolar indirect nuclear division also occurs. The nuclei can enter the interior of the fibers only by active migration, for lobulated nuclei are met with which remind one of amoeboid forms. Furthermore, mono- and polynuclear leucocytes occur in the degenerated fibers; finally, there also occur connective-tissue wandering cells, which can be noticed from about the sixteenth day onward.

The degenerative processes in the nuclei are also quite active. Three weeks after infection the new-formed nuclei are found only around the fibers in close proximity to the trichinæ. The nuclei are destroyed by fatty metamorphosis and direct disintegration. Vesicle-like degeneration-forms are often observed, which have their origin in edematous imbibition.

Alterations in the connective tissue are denied by many authors; and it is true that the connective tissue shows no reaction in those localities where the trichinæ are still in process of migration. But if the parasites remain lying, then the connective tissue re-

acts. The perimysium does not at first react, but does so only after a few days, when the chemical injury has attained a certain degree. About the eleventh day a considerable hyperemia of the muscle occurs, which is expressed by greater dilatation of the capillaries; about the same time the first migration of leucocytes is observed, so that, finally, a genuine interstitial myositis develops.

In reference to the distribution of the trichinæ, it is now most probable that they are not born in the intestine, but that the mother trichinæ enter the central chyle-vessels of the villi and empty their progeny into the lymph-stream. They are thus carried to the nearest mesenteric glands, and from there enter the muscles by active migration, which, to be sure, often occurs intermittently. The parasite penetrates the sarcolemma sheath and remains lying between the fibrillæ. Here it grows and rolls itself up into spiral form. Now the capsule-formation begins. The latter process has been the subject of much controversy. Probably the capsule is formed by the sarcolemma becoming thickened and homogeneous. About this are collected granulation-cells, epithelioid cells and fibroblasts. Finally, lime is deposited in the capsule.

The Effect of Intense Flashes of Electric Light upon the Eye

Dr. Dunbar Ray reports (*Amer. Jour. Ophthalm.*, Dec., 1897) cases of his own and mentions others to show the pernicious influence of the electric lights. He tells us that a few cases have been reported where intense electric flashes have caused a temporary blindness, and where the pathologic lesion has been a greyish discoloration in the region of the macula lutea. The action of the snow upon the eyes producing the phenomenon known as snow-blindness is of no infrequent occurrence in the frigid zones, and the pathologic conditions there found are similar to those seen in eyes which have been injured by electric flashes. Intense light as the cause of retinal and conjunctival changes has been known for a long time. Electric light as a cause is of comparatively recent date, and only since it has become so universally popular for domestic use. Deutschmann has shown, by experiment, that concentration of direct rays of sunlight upon the retina of a rabbit produces a coagulation of the retinal albumen with an accompanying pigmentation. While the action of sunlight from the snow produces a decided retinal irritation, it manifests its chief symptoms upon the eye by producing a severe conjunctivitis, with sometimes a diffuse kera-

titis and ulcers of the cornea. It rarely leaves any bad result. Just what degree of brilliancy it takes to produce injurious effects upon the eye has not been definitely settled. It is true that the ordinary incandescent light certainly seems to be the best for illuminating purposes. It is more brilliant, produces less heat, is steadier than gas, and is the nearest approach perhaps to the daily sunlight. Notwithstanding, the author prefers the mantle-covered gaslight, and he says that when subdued by the use of white shades it makes a most excellent light by which to work. In schools, Dr. R.'s experience has been that the incandescent electric lights are not suited for a light by which to do constant work. He prefers the light from a student's lamp.

Several cases have been reported of blinding or dazzling of the retina through intense flashes of lightning, which show much similarity to those caused by the electric light. In individuals struck by lightning cataracts are known to have formed as the result of this injury.

In all the cases observed the contraction of the pupil from the retinal irritation was so strong that it persisted for days. Pain was universally present also, and it came on several hours after the accident. G.

A New Symptom Observed in Peripheral Facial Paralysis

H. Bordier and H. Frenkel describe what they believe to be a new phenomenon, occurring in facial paralysis of peripheral origin, in *La Semaine médicale* for September 8, 1897.

This symptom consists in this: When a patient with this type of facial paralysis closes the eyes, the lids on the well side close energetically, while those on the diseased side close but slightly, showing that the globe of the eye is at the same time raised slightly and somewhat to the outer side. In other words the patient cannot shut the eye on the diseased side without raising the globe at the same time in an upward and outward direction. This symptom, they claim, is absent in facial paralysis of centric origin.

A Teasel-burr in the Larynx

Dr. Smith reports the following unique case (*The Clinic*, Vol. XVIII, No. 11, p. 583). A young man of about 18 applied at the hospital, only able to speak in a scarcely audible whisper. A few days previously, while laughing, a friend had blown in through his open mouth a so-called sand or teasel burr, which instantly rendered phonation impossible; there were slight pain and slight dyspneic feeling, but no dys-

phagia. A laryngoscopic examination revealed a white body, situated in the anterior commissure, imbedded in, and almost entirely immobilizing the vocal chords, which were much swollen and infiltrated. Under cocaine-anesthesia, a Schroetter laryngeal tube-forceps was introduced, and after some manipulation the burr was removed. The mirror showed a number of small white indentations in the ventricular bands, not unlike stitch-hole abscesses. With the delivery of the burr the pricking sensation disappeared at once, but it took three weeks before phonation became normal. The explanation that the author offers for the peculiar impaction of the body between and on the under aspect of the ventricular bands is that it was first carried into the trachea and then forcibly driven against the slightly tilted cords by the short expiratory blast of air necessary for laughing. A careful search in the literature on the subject failed to bring to light just such a case as the one reported. R.

The Pathology of Tabes Dorsalis

Dr. William G. Spiller, in *Inter. Med. Mag.*, 1897, considers this subject.

The degeneration of tabes follows the laws of degeneration of the posterior roots. If the lumbar portion of the cord, in a case of incipient tabes be examined, a degenerated area will be found close to the median side of each posterior horn, which does not extend very far anteriorly. These areas have been known as Pierret's *bandelettes externes* (small external bundles), or as Westphal's root-entrance zones. They contain the degenerated fibers which enter the posterior horns in their passage forward to the motor-cells of the anterior horns. Later in the disease, the process extends and occupies a larger portion of the posterior columns. The attempt has been made to explain the symmetry of the tabetic degeneration by the theory of decussation.

It is a peculiar fact that the lumbar roots are much more likely to degenerate in tabes than the thoracic and cervical. Cases in which the cervical roots are alone affected are very rare, but they do occur. When the cervical portion of the cord is alone affected in tabes, the columns of Goll are not degenerated, because the cervical fibers do not enter these columns.

Westphal has spoken of the degeneration against the median side of each posterior horn in incipient tabes, and has shown that the patellar reflex is lost when his root-entrance zones are affected, i. e., when the degeneration is the lumbo-thoracic region, in the portion of the posterior columns on each side external to an imaginary line

drawn from the angle of the posterior horn to the periphery of the cord.

It is stated by reliable writers that degeneration of the pyramidal tracts, direct cerebellar tracts, and Gower's tracts may occur in the later stages of tabes.

Sometimes in tabes a number of posterior roots may escape degeneration, and others, higher and lower in the cord, may be affected. A sound area is in this way produced in the posterior columns between two degenerated ones, for the sound fibers are, of course, pushed toward the posterior median septum in the same way as the degenerated.

Degeneration of Lissauer's zones is usually an early lesion of tabes.

Various theories have been advanced regarding the primary lesion of tabes, and although the connection of the disease with syphilis seems well established, the portion of the nervous system in which the primary lesions are manifested has escaped detection. Marie and Babinski believe the location of the primary lesion is in the spinal ganglia. Marie ascribes the peripheral neuritis of tabes to this primary change of the cells of the spinal ganglia. Oppenheim and Siemerling found great degeneration of the fibers in the posterior ganglia in cases of tabes, but the fibers passing from the distal ends of the ganglia were well stained. Oppenheim has found the spinal root of the fifth nerve, and the fibers and cells of the Gasserian ganglion diseased in tabes. In the opinion of the writer, the theory that the cells of the spinal ganglia may be so altered functionally as to produce the intense degeneration of tabes, and yet this alteration be invisible with the use of the microscope and improved methods, is not satisfactory. Wollenberg was probably the first investigator who found any alteration of the cells of the spinal ganglia, and Stroebe has also found lesions of these cells. They have spoken of such changes as fatty degeneration, pigmentation, cloudiness, and atrophy of the cells, etc. Babés and Remnitzer believe the principal lesions consist of alteration of the lamellæ and cells which constitute the capsule of the nerve-cell within the ganglia, and in destruction of the nerve-reticulum in the capsule of these cells. The changes in the chromatophilic elements and the pigmentation they regard as of less importance.

Obersteiner and Redlich claim that they could notice in cases not too far advanced that the extramedullary portion of the posterior roots was less affected than the intramedullary, and that the difference began at the point of contraction. The changes in the extramedullary portion of the roots in

tabes are retrograde, as are also the slight changes in the cells of the spinal ganglia. The lancinating pains are due to compression of the posterior root at these points of contraction. Nageotte, in his report of a case of tabes, affecting only certain of the fibers of two spinal roots, has attempted to show that the absence of myelin sheaths at the point of entrance of posterior spinal roots into the cord, and the contraction of the roots are post-mortem changes, due to retraction of tissue. He has found in cases of tabes a perineuritis and mesoneuritis of the posterior spinal roots, exactly limited to the portion between the spinal ganglia and the entrance of the roots into the trachnoid cavity, at a point where the anterior and posterior roots are united. There is first of all an infiltration of embryonic cells in this region, which terminates in the formation of connective tissue. This condition may easily escape detection if serial sections are not made, for the portion of the root which may be the seat of the tabetic lesion is only about from 10 to 15 mm. long in the several portions of the cord. This neuritis acts by compression and irritation of the nerve-fibers. The fibers of the anterior roots are also affected at this part, but they appear to be more distant than those of the posterior, although possibly a descending motor neuritis may be produced. The same lesions may be found in cases of tabes associated with general paralysis.

Tabes is by no means limited to the spinal cord; it is a cerebro-spinal disease. The spinal roots of the fifth nerves (descending roots) and the descending glosso-pharyngeal roots are sometimes degenerated. The optic nerve is often affected. Numerous observations have shown that when this nerve is degenerated early in the tabetic process, the course of the disease is greatly modified or often arrested. Gowers has described a patient in whom optic atrophy preceded the other symptoms of the disease for twenty years. Destruction of nerve-fibers in the cerebral cortex has also been observed in tabes (Jendrassik). Marie says cortical changes are not uncommon in tabes, even when there have been parietic symptoms. The spinal lesions of tabes are not secondary to the cortical, though they are doubtless due to the same cause.

The nature of the ocular palsies and laryngeal crisis in tabes has never been clearly demonstrated.

Some writers have thought that the posterior sclerosis of tabes is caused by disease of the blood-vessels.

The involvement of the peripheral nerves in tabes has been a disputed question. In

some cases of tabes extreme muscular atrophy of the extremities occurs. Charcot and Pierret published the first case of this kind with alteration of the cells of the anterior horns.

Certain authors have looked upon trauma as an etiological factor in the tabes. It is difficult to understand the *modus operandi* in which trauma could affect the posterior roots alone. G.

The Relation of Division of the Vagus to Degenerative and Inflammatory Changes in the Heart-muscle

The question whether the vagus, in addition to its regulatory action upon the heart, exerts any further influence upon the heart-muscle itself and what kind of changes occur in the heart-muscle after loss of vagus influence, is of great importance to the physiologist as well as to the clinician. At the suggestion of Prof. Eichorst, the author, Dr. A. Hofman, endeavored to answer this problem (*Virchow's Archiv.*, CL, p. 161), and arrived at the following conclusions:

1. Division of the vagus upon one side in rabbits is in most instances well borne. In a few instances the animals die of pneumonia, seldomer from heart-paralysis.

2. Division of the vagus on one side is not followed by degenerative alterations of the myocardiac fibres, or the development of myo- and endocarditis.

3. After the division of the vagus on both sides, acute fatty degeneration of the heart-muscle occurs and an abnormal disposition of the small vessels of the heart to rupture, due to suspension of action of specific trophic fibres. At the same time myo- and, rarer, endocarditic foci occur in the heart-muscle and valves, as a result of vagus excision.

4. In rabbits, deposition of staphylococci from the circulating blood into the heart is not favored by partial or complete suspension of vagus influence. A.

Curettage in Laryngeal Tuberculosis

Though admitting the great value of the methods at present in vogue in the treatment of laryngeal tuberculosis, such as inhalations, insufflations, injections, electrolysis, etc., Dr. J. W. Gleitsmann is glad that curettage is gaining more and more adherents, and that the indications for its employment are more clearly defined at present (*Med. Rec.*, Vol. LII, No. 23, p. 803). He considers curetting indicated:

1. In cases of primary tuberculous affection without pulmonary complications. In one case, that occurred over eight years ago, he prevented the infection from extending to the lower air-passages and restored the

patient to health after a severe and prolonged struggle.

2. In cases of circumscribed ulcerations and infiltrations of the larynx.

3. In cases with dense hard infiltrations of the arytenoid region of the posterior wall, also of the ventricular bands and in tuberculous tumors of the epiglottis.

4. In the incipient stage of pulmonary disease with little fever and no hectic symptoms.

5. In advanced pulmonary disease, with distressing dysphagia resulting from infiltration of the arytenoids, as the quickest means of giving relief.

Curettage is contraindicated in:

1. Advanced pulmonary disease associated with hectic symptoms.

2. Disseminated tuberculosis of the larynx.

3. Extensive infiltrations producing severe stenosis, when tracheotomy is indicated, or laryngotomy may be thought of.

4. Timid, distrustful patients lacking the necessary nerve-power.

In cases where curettage was either objected to or considered inappropriate, submucous injections of lactic acid have given the author satisfactory results. R.

Intermittent Fever in Children, etc.

Dr. Herman B. Sheffield (*N. Y. Med. Jour.*, Oct. 23, 1897) summarizes his views upon this subject as follows:

1. Intermittent fever in children is mostly of the quotidian type; the chill and sweating stage being often massed, it is not infrequently overlooked; the spleen is rarely enlarged if quinine is administered early.

2. Genuine intermittent fever always presents the malarial plasmodium in the blood; its absence is due either to a technical error on the part of the examiner or to the administration of drugs which are detrimental to it.

3. The existence of the varieties of the plasmodium described by some authors as peculiar to quotidian, tertian, quartan, etc., types of the fever is still a subject of great controversy.

4. Infection of malaria is conveyed through the air as well as by water. The mosquito theory of infection seems to be a mere hypothesis.

5. Malarial disease is endemic in most of the larger cities of the North, especially New York; all doubts raised against it are not based upon scientific investigation.

6. Intermittent fever yields promptly to large doses of quinine, a point of considerable value in the diagnosis. Persistency of the attacks may be attributed either to the exhibition of quinine in too small quantities

for too brief a period, or to its administration in the form of the mercantile, heavily coated pill, which is, as a rule, insoluble and hardly ever enters into the circulation. O.

A New Disease of Childhood

Drs. Johannsen and Boeck, *Aerzt. Rund.* (Vol. VII, p. 133, 1897), observed the following manifestations of a disease in children one to one and a half years old.

A few vesicles which soon burst leaving open sores appeared first upon the anus and genitals, and later on the hands and feet. The latter became bluish-red and were finally thickly covered with large and small bullæ. The vesicles were also distributed on the knees. The nails of the toes were white and split in fibers. The eruption was accompanied by violent itching. Some of the bullæ healed leaving behind a bluish discoloration and hypertrophy of the skin, while others were converted into "weeping" spots. The children were restless, had a wild expression of the face, lost the power of speech and locomotion. The latter did not return during the eight weeks of observation. This new affection seems to be a result of ossification of the basis cranii, akin to the lesions observed by Virchow in cretinism. S.

Acute Anterior Poliomyelitis

Dr. Courtney says (*Boston Med. and Surg. Jour.*) the physician should keep constantly in mind that the lesion is primarily a vascular one, and should do his utmost to limit the inflammation and preserve the integrity of the nervous structures by the use of counter-irritants and vaso-constrictors. For this purpose the child should be kept in a quiet room, and small doses of some antipyretic, together with the bromides and ergot, are to be given. Locally, cold applications and mild counter-irritants over the affected portion of the spine are indicated. The child should be carefully fed and the bowels thoroughly purged by small doses of calomel. R.

Hysterical Aphonia

Dr. Sanger Brown, in the *Med. Record* (Vol. LII, No. 3), says that two distinct types of hysterical aphonia may be recognized. The first type is where aphonia is merely an accompaniment of many other pronounced stigmata of hysteria, such as hysterical pains, hemianesthesia, vomiting, etc. The second or pure type is that in which the aphonia occurs suddenly with or without an exciting cause, continues for a longer or shorter

time, and constitutes the sole manifestations of hysteria. All methods of treatment which have been suggested owe their success to the influence of the suggestion, with which they are accompanied. Hypnotism is successful in a number of instances, but not more so than is electricity, especially faradism, applied to the larynx either internally or externally.

The well-known Oliver method consists in pinching the posterior part of the arytenoid cartilages between the thumb and the index finger (thus producing an approximation of the vocal cords), at the same time vigorously shaking the larynx and calling upon the patient to make an attempt to phonate, assuring him positively of his ability to do so. R.

New Clinical Sign for Operation in Croup

M. Bayeux asks in *Jour. de Clin. et de Thé. Infant.* (No. 37, Sept. 16, 1897, pp. 728-9), "At what moment shall we operate in croup?" In 1859 we hesitated to intervene too soon because tracheotomy was often useless and often dangerous by itself. To-day, we hesitate to operate too soon because serotherapy has extended the list of spontaneous cures. On the other hand we then feared to defer operation until too late because tracheotomy was the only operation for croup. Now, we need not be so anxious in that direction since tubage may be so easily employed as relief, especially that form of it called *écouvillonnage*—momentary tubage (repeated if necessary).

In all cases, we must operate neither too soon nor too late. The rule is difficult to assign, but the author connected it with the "contraction of the accessory muscles of inspiration." He noticed that these were engaged in the following order, the trapezius, the omo-hyoid, the scalenus anterior, and the sterno-mastoid. The sterno-mastoids contract precursory to the conditions of asphyxia, preceding them by a few hours. Their action consists of an active rhythmic tension, persistent and synchronous with the inspirations. This must be differentiated from what is apparently a passive tension of these muscles perceived by pinching the muscles lightly between the thumb and forefinger. This sign has also a prognostic value, in tubage indicating progressive obstruction of the tube, where there are no other signs.

In a child from whom the tube has been removed it indicates the need of replacing it. In tracheotomized patients it denotes an estopped canula.

This sterno-mastoid sign, then, warns of the near urgency of surgical interference in

croup and notifies the physician that tubage, tracheotomy, or other prompt measure needs to be resorted to, if grave operative conditions are to be anticipated and avoided.

M. Rauchfuss, of St. Petersburg, thinks this sign is not more to be relied on than another, first noticed 40 years ago by Gerhardt, that is the failure of the pulse in inspiration which he calls inspiratory asystole, but which in France is called the paradoxal pulse, especially described by Variot.

H.

Supposed Causes of Insanity

Dr. Wm. Lee in *Maryland Med. Jour.*, Vol. XXXVIII, No. 28, p. 23, states that the colored race, which, up to thirty years ago, was practically free from insanity, under its changed environment, has become yearly, more and more, afflicted therewith. Certain general conclusions are given which may be summed up as follows:

The increase of insanity in the negro is due first to the fact that his freedom, with all that implies, was thrust upon him without any previous preparation, carrying with it responsibilities for the care of himself and family without the means of support, or the habit of self-reliance; then the reaction in itself from a condition of servitude to that of freedom was a matter of such great social importance that it must have had a psychical influence upon the race. Add to all this the removal of restraint, the indulgence in every species of dissipation, especially alcoholism and promiscuous intercourse, and you have in brief adequate cause for the increase.

C.

How Bubonic-plague Microbes Gain Entrance—The Agglutinative Test with Serum

La Sem. méd. (No. 19, p. 140, 1897) says that the German Medical Commission sent to Bombay to study the plague has communicated to the *Deutsch. med. Woch.* that they have been able to establish three modes of entrance of the plague virus, viz., solutions of continuity of the skin, the lungs, and the tonsils, and that it is by the first of these that it most commonly gains entrance, causing primary swelling in the glands of the neck, axilla, elbow-flexure, popliteal space, groin and preauricular region. In proportion as the virus does not get past these gland-filters, the patient escapes the septicemic form of the disease which is nearly always fatal, and in which the bacilli are found in the blood and viscera. When the buboes suppurate the bacilli rapidly perish; but there is danger then of grave mixed in-

fection, especially of streptococcic origin. In certain light cases the buboes do not suppurate and end in resolution. The plague-stricken become truly dangerous to their surroundings only when the blood is already infected and the excretions contain specific bacteria.

Primary infection of the lungs is fortunately rare. In these cases we find pneumonic foci containing plague bacilli in abundance, either in condition of pure culture or associated with diplococci or streptococci. The sputa of these patients are much to be suspected.

Plague cases of tonsillar origin are very probable, judging from an autopsy made by the Austrian commission assisted by one member of the German commission. These cases rapidly infect the organism and are very dangerous to others.

The bacteriological examination of the blood gives results only when the bacteria multiply in that medium. The culture-process is the best means of diagnosis. But the most important bacteriological point is that the blood-serum of the infected exercises on an emulsion of pure culture of the bacilli of the plague the same agglutinative reaction as the blood-serum of typhoid and cholera patients does on the bacillus of Eberth and the comma-bacillus. This fact leads us to suppose there exists a direct analogy between the three affections.

H.

Facts Concerning the Chemistry of Chlorophyll and Hemoglobin

In the course of an address at the sixteenth annual meeting of the Society of Chemical Industry, held in Manchester on July 14, 1897, the President, Dr. Edward Schunk, in speaking of organic coloring matter (*Jour. of the Soc. of Chem. Indus.*), said that by the action of strong acids on chlorophyll a certain product is obtained, and the action of alkali on this product, in sealed tubes, leads to the formation of phylloporphyrin, a substance crystallizing in lustrous-red needles which has remarkable properties. Treated in a similar manner, hemoglobin yields an analogous substance—hematoporphyrin. Now these substances, phylloporphyrin and hematoporphyrin, resemble one another in several respects in a most remarkable manner. Both are red and give red solutions; both act the part of weak bases toward strong acids; both when heated give off fumes of pyrrol; the ethereal solutions of both show absorption-spectra of seven bands, the intensity and relative position of which are in both cases absolutely the same, the only difference being that in the case of hematoporphyrin the bands are slightly nearer

the red end of the spectrum. As to composition, too, the two substances approach one another, that of phylloporphyrin being expressed by the formula $C_{16}H_{18}N_2O$, that of hematoporphyrin, according to Nencki, by $C_{16}H_{18}N_2O_2$; they differ therefore in the amount of oxygen they contain. B.

Upon New Formation of Nerve-cells in the Brains of Monkeys

It is frequently taught that reproduction of new nervous tissue is quite impossible in the higher types of animals. The investigations of Vitzow in the *Arch. de Physiol.*, 1897, p. 29, upon young monkeys would seem to show the contrary. He extirpated portions of the cortex of the occipital lobes of both sides with resulting complete blindness. After $3\frac{1}{2}$ months signs of returning ability to see were noted and at the expiration of two years the sight had markedly improved. A second operation was performed and a quantity of gray nerve-like material was removed from the site of the former extirpation. This was found upon microscopic examination to contain nerve-cells and nerve-fibers. An irreparable blindness followed the second operation.

J.

Friedreich's Disease with Late Onset

Dr. Gaston Bonnus presented before the Société anatomique de Paris, *Bulletin*, 1897, an interesting case of hereditary ataxia coming on in a man of 25 years of age.

The family history shows that one sister aged 25 years is affected with spasmodic movements of the lower extremities, and that a brother aged 25 has the disease with a most typical set of symptoms.

The patient was 39 at the time of observation, but the trouble dated back at least 14 years.

The histological examination is of value on account of its rarity.

The cerebellum was said to be absolutely intact.

Spinal Cord.—At third lumbar the posterior columns are affected save the central oval of Flechsig and Westphal's zone. The pyramidal tract shows a degree of sclerosis.

Ninth Dorsal.—The posterior columns are completely degenerated, the zone of Westphal is slightly affected. There is sclerosis of the pyramidal tracts and of the direct cerebellar tract. Gower's column also is somewhat involved. The cells of the columns of Clark seem less numerous and are slightly atrophied.

Eighth Cervical.—All the periphery seems involved, but the degeneration is

most marked in the posterior columns and the direct pyramidal tracts.

Medulla.—The columns of Gall and Burdach are involved as high as the nucleus gracilis and cuneatus, but beyond that the degeneration ceases.

The meninges were intact, the anterior roots were normal, but the posterior roots were greatly degenerated. The median, sciatic, anterior tibial, and musculo-cutaneous nerves were affected.

The Phenylhydrazin Test and Its Adaptability for the Detection of Sugar in the Urine

Dr. Erik Holmgren (*Upsala läkarefören. förh.*, N. F. II, 1897; ref. *Schmidt's Jahrb.*, Bd. 254, 1897, p. 114) conducted experiments for the purpose of comparing the delicacy of Almen's (bismuth) and the phenylhydrazin tests, and to determine how far normal urine, which, according to recent researches, always contains some grape-sugar, gives positive evidence with the phenylhydrazin test. His experiments showed first, that the phenylhydrazin test is decidedly more delicate than Almen's test. While less than 0.05-0.04 per cent. sugar could not be detected with the latter, the former still gave a distinct reaction with this amount. In the phenylhydrazin test a sugar-content of 3:100000 water gave, after a short time, a distinct macroscopic precipitate of glycosazon crystals; a solution of 1:100000 gave a precipitate of crystals which could be demonstrated by the microscope; indeed, with strong magnification, the author could still detect glycosazon crystals in a solution of 1:300000. The phenylhydrazin test, therefore, is the most delicate test for grape-sugar.

Of disturbing influences, the author noted that alkaline reaction disturbs the result, and that great concentration of the urine appears to require larger amounts of the reagent in order to obtain the best results. The age of the individuals from whom the urines were obtained did not appear to exert any influence; but it appeared to the author as if the urine of persons engaged in muscular labor contained more crystals than that obtained from those engaged in mental labor.

In determining with absolute certainty the presence of sugar by means of the phenylhydrazin test, the microscopic demonstration of the crystals does not suffice; on the contrary, the melting-point of the crystals must be ascertained, which for the osazon of grape-sugar is 205° C. The author determined the melting-point of the crystals obtained from normal urine and found that the carbohydrates which enter the urine

under normal conditions probably consist, to no small amount, of pentoses. The author thinks that the fact that such numerous and typical osazon crystals are found in the urine of perfectly healthy individuals as to make it doubtful whether the urine is really normal or not, as well as the necessary, difficult, and time-robbing confirmation of the evidence as to whether grape-sugar is present or not, renders the phenylhydrazin test inapplicable in ordinary practice.

Critical Study and Experimental Investigation of the Bacteria of Hemorrhagic Septicemia

A large number of observations have been published in various countries and journals upon such diseases of domestic animals as American and German hog-epizootic, chicken and bird cholera, etc.

The author, O. Voges, in the *Zeitsch. f. Hyg. u. Infektionsk.*, XXIII, p. 149, has attempted to make a critical comparative study of all these diseases and their organisms, with a view of finding out if they have common origins, and if any practical methods for producing immunity could be found.

With reference to the identification of the bacteria forms, the author holds that their differentiation, as far as their published descriptions go, is not possible, the only character of constant worth being their motility.

The investigation of the poison-products of the various organisms shows that they are contained at first in the bodies of the organisms, and later get into the tissues and fluids of the body.

On the question of immunity the author's results were mainly negative; no specific antitoxin bodies could be found by him, and in the present state of our knowledge no methods of conferring immunity are of value.

J.

Epidermolysis Bullosa

Dr. Wallace Beatty, in the *Brit. Jour. of Derm.*, Aug., 1897, gives a report of three cases and a compilation of all the recorded cases of that remarkable and rare skin-affection.

The patients were a man and his two children, one a girl aged 3 years, the other a boy aged 18 months. The father was 41 years of age. He gave the following history: When he was born the skin of the right leg, from the knee to the ankle, was peeled off. At 7 years of age blisters formed at the seat of the injury. Ever since then he has been subject to the recurrence of blisters, some containing clear and others bloody fluid. The most vulnerable parts are the knees, elbows, hands, feet, and scalp. A slight blow will produce a blister,

and a severe blow, a raw surface. The nails are absent on some of the toes and fingers. The nail-beds are imperfectly formed, although at birth all the nails were natural.

The elder of the children (the girl) appeared normal at birth, but when she was 2 months old small blebs appeared on the hands. Since then successions of blebs have formed at the slightest injury on the elbows, hands, wrists, knees, and feet. Other parts of the body remain free. Besides the bullæ there are groups of milia over some of the phalangeal joints of the fingers.

The younger child was born with a bleb on his right thumb. Since then there have been a succession of blebs. There are also groups of milia over some of the finger-joints. The localities affected are similar to those of his sister.

The etiology of this interesting disease is still under consideration, and until we know the true nature of a similar disease (pemphigus) it would be impossible to determine definitely the cause.

Histologically the fluid of the bullæ has been examined and was found to occupy the rete. Elliot's careful microscopic examinations showed that the process is a dermatitis, but why there is a tendency to the formation of blebs is uncertain. S.

Eczema in Children

Duenges (*Centralbl. f. Kind.*; ref *Pediatrics*) describes a form of eczema which may materially interfere with the health of the child; namely, that form which usually appears on the bottom and posterior aspect of the thighs of infants. Its origin can generally be traced to irritation from the urine and feces. These children cry a great deal, sleep proportionately little, and, besides, there is danger of ulcers and abscesses forming on the diseased parts, with their accompanying ill effects on the health, and even more serious consequences may result. As these cases often resist all kinds of treatment with ointments and baths, the author recommends one which has given him the most rapid and excellent results. The child must at first be given a bath at about 90 degrees. It is of importance to dry the child after the bath without friction of the diseased parts, by the simple pressure of a soft towel, or absorbent cotton. Following the bath, any kind of babies' powder is thoroughly dusted on the eruption, and then it is to be covered with gutta-percha sheeting, which must be kept well in place by the diaper, or, if necessary, by a roller bandage. Frequently the moist eczema is already converted into the dry, scaly form on the second day of treatment.

GENERAL SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

Hernia of the Small Intestine through the Mesentery of the Vermiform Appendix

Dr. J. P. Tuttle (*N. Y. Poly.*, Sept. 15, 1897) details a case of the above, proved upon autopsy, he not seeing the patient until she was practically moribund. She had been in the hospital some days suffering from constipation and symptoms which had been diagnosed as those of gastroenteritis, for which she had been treated. Nausea and vomiting had been a constant symptom, but not until a few hours before her death did the vomited matter assume a fecal nature. There was no severe pain in the right iliac region, although the patient complained of griping and general tenderness over the abdomen. Having been unable to eat anything for two weeks she died apparently from absolute exhaustion. Upon autopsy, the upper portion of the small intestine presented no unusual features. The mesentery of the vermiform appendix, which was about four inches long, had in it, however, a small circular opening about three-fourths of an inch in diameter. Through this opening a loop of small intestine about eight inches long had passed and become greatly distended and strangulated. The gut was almost gangrenous, but still retained gas to such an extent that moderate dragging upon it did not loosen it from the hole in the mesentery of the appendix. There was no opening into the gut, nor was there any escape of fecal matter into the abdominal cavity. In this case, the author suggests that an exploratory operation would have been of the greatest value.

L.

Cancer of the Breast and Its Radical Cure

The observations of C. E. Ristine, M. D. (*Virg. Med. Semi-Monthly*, Oct. 22, 1897), lead him to assign all true cancer to paternal origin, and in collecting statistics on the transmission of cancer, one is struck with the frequency of male heritage. Traumatism, chronic inflammations, and benign neoplasms, are only factors when they occur in an otherwise predisposed person. Any long-standing affection of the nipple or areola is a very dangerous condition, likely, in the course of time, to lead to a cancerous degeneration. The younger the subject the more rapid the progress. As to the diagnosis of mammary cancer, while not free from difficulty in many cases, one is justified

in pronouncing all doubtful neoplasms to belong to this group; even cystic disease of the breast has been found in the majority of instances, to be malignant. To wait for positive evidence, valuable time would be lost; interference at the very earliest stage of infiltration will give the most satisfactory results. The relative frequency of tumors of the breast, according to statistics taken from 9227 cases are: Carcinoma, 77.6 per cent.; sarcoma, 4.1 per cent.; non-malignant, 15.6 per cent.; cysts, 2.6 per cent.; the proportion of malignant to non-malignant neoplasms being 81.7 for the former and 18.3 for the latter. Metastasis occurs through the lymph-channels in carcinoma, and through the blood-channels in sarcoma, in the order of their frequency the deposits occurring respectively in the pleura, the liver, the lungs, and the bones. According to Kuster, who first advised and insisted upon the universal removal of all the lymphatic glands of the axilla, in operations upon 163 cases of carcinoma mammae, enlarged axillary glands were found in 158 cases, or in 97 per cent. Before operating they were felt in only 70 per cent. Recurrences in this locality amounted to less than 5 per cent. subsequent to removal of these glands, 85 per cent. of such recurrences manifesting their presence first in the cicatrix immediately over or very near the original location of the neoplasm. Ristine states that the treatment of cancer of the breast at the present time is by one of three methods: 1. Sero-therapy and inoculation by toxins; 2. removal by cautery or caustics; 3. extirpation. The serum treatment, introduced by Richet and Hericourt, had its application to the treatment of cancer suggested by Gibier; while Coley claims to be the first to suggest and use the mixed toxins of the prodigious bacillus and the erysipelas streptococcus. Pyocetanin, injections of arsenous acid (1-1000), alcohol, methylene-blue, and proto-nuclein have also been used with but occasional good results. The author's definition of a radical cure of cancer of the breast is, the removal of the cancer element so thorough, that its recurrence in that locality is prevented, and metastasis rendered improbable. Recent researches go to show that enlargement of the lymphatic glands from cancer-infection is subsequent to metastatic deposits which occur in the course of the lymphatic vessels before they reach the glands. This is especially true of the retro-mammary lymphatic vessels which conduct the lymph from the posterior portion of the mammae by several vessels, which pass on to the axillary and subclavicular glands. The author puts forth the chief objects to be borne in

mind throughout the operation for radical removal as: First, to get away every atom of the disease, which can only be accomplished by the sacrifice of all tissue which lies in proximity to the tumor. Second, to remove entirely the lymphatic tract between the breast and the axilla, and between the breast and subclavicular glands. The close relation which the neoplasm sustains to the pectoral fascia, and the knowledge of the presence of numerous lymph-channels in this membrane, make its removal imperative. Third, to clear out the axilla and subclavicular fossa. This work is facilitated by the previous removal of the pectoral muscle. Under the present method of operating, the patient has every encouragement, provided she submits to early interference. The principle which should never be lost sight of is to go far out into the virgin tissue, so far as to make it a certainty that the remaining tissue is not contaminated. L.

Foreign Bodies in the Rectum

At a recent meeting of the Paris Surgical Society (rep. in *La Méd. mod.*, VIII, No. 89, p. 712), Dr. Delbet reported the following curious case. A man, 41 years of age, introduced into his rectum a bottle 24 ctm. (10 inches) in length and 18 ctm. (7 inches) in circumference. All attempts to extract it proved futile; the bottle placed itself transversely in the rectum, with the neck towards the abdominal walls and with the bottom above the coccyx. Dr. Delbet thought that the coccyx formed the real obstacle; he therefore incised the perineum, then did a rectotomy, resected the bone (coccyx), and then extracted the bottle with ease. The author made experiments on the cadaver to verify the true cause of the obstruction. At first the introduction of the foreign body is very easy; further we meet with an obstruction, because the foreign body strikes the promontory. Then instead of remaining vertically, the body places itself transversely, with one of the extremities above the coccyx. At the same meeting two other cases of foreign bodies in the rectum were reported, one being a large bottle, the other a sausage. R.

Cysts of the Mesentery

Berkeley G. A. Moynihan, F.R.C.S., (*Ann. of Surg.*, Vol. XXVI, No. 1, July, 1897), has made a careful study of mesenteric cysts.

His conclusions are as follows: Cysts located in the mesentery may be (1) serous, (2) chylous, (3) hydatid, (4) hemol, (5) dermoid, (6) cystic malignant disease—cystic sarcoma. Cysts arising elsewhere

and becoming mesenteric only by later extension are excluded, but certain pathological conditions of the lymphatics of the mesentery (varix, nevus, and lymphangioma cavernosum) are also to be included in the classification. All of these varieties may be either monolocular or multilocular.

Cystic disease of the mesentery is very much more common in women than in men. The only form of cyst found with perhaps equal frequency in the two sexes is the hemorrhagic cyst, caused in most instances by traumatism. Dermoid cysts have been found only in women. The extremes of life are not exempt from this disease. The size of the tumors is extremely variable; they are sometimes so small as to be of no clinical significance, to cause no symptoms and to require no treatment; they are sometimes so large as by their mere physical bulk to cause death.

The tumor is generally more or less spherical, and may be entire or lobed: Its most prominent part is generally near the umbilicus, slightly to the right of that point, and approaching it more nearly as the cyst enlarges. The navel is never protruded. It has been stated by Tillaux that "if a mark be made on the skin over the most projecting point of the tumor it can be noticed that this point travels upward during inspiration and that it is not the tumor itself that moves downwards." The most obvious and most characteristic sign of the tumor is its mobility.

Fluctuation is present and is sometimes easily felt, but it may be confounded with the elasticity of a lipoma similarly situated.

On percussion there is a zone of complete resonance all around the tumor. It can be shown that there is no connection with the liver above, the pelvis below, or the spleen or kidneys laterally. On light percussion a resonant band may perchance be made out crossing the tumor. The Trendelenburg position may facilitate the examination.

Very small tumors, as already mentioned, often give no symptoms whatsoever. Of the larger growths two classes may be mentioned:

(a) Chronic cases in which the complaint is made chiefly of an abdominal tumor, giving rise to more or less pain, according to the exact site of the mass. The pain is local, in and around the tumor, and radiating to the flanks, groins, and thighs. As a result of the pressure exerted on the intestine and the consequent partial closure of the canal, there are colicky pains due to the vermicular action of the hypertrophied muscular fibers as they attempt to overcome the obstruction. Tenderness of the abdo-

men may exist, but it is usually absent. Constipation is the rule, but the extent and duration of it will depend largely upon the position, duration, and size of the tumors. There is sometimes vomiting and very rarely there is persistent and intractable diarrhea. The compression of the vessels in the mesentery and also of the blood-vessels causes a diminution of the secretion of the gut, and a consequent palsy of the muscular fibers leading to meteorism in some instances.

(b) The second class of cases are those in which the onset of acute intestinal obstruction draws the attention of the patient and practitioner to the abdomen. The symptoms are those of acute intestinal obstruction—vomiting, complete constipation, distention of the intestine, and the usual affections of the circulatory and respiratory system. There are no symptoms which distinguish intestinal obstruction due to a mesenteric cyst from obstruction due to any other cause.

The symptom of general wasting appears to be common to both the chronic and to the acute cases. It often occurs, is sometimes extreme, and is probably due to interference with the lacteals of the mesentery.

The causes of such acute intestinal obstruction are: (1) Irritation of solar plexus by pedicle of cyst; (2) compression of the intestine in some cases sufficient to cause gangrene; (3) formation of adhesions and strangulation by them; (4) onset of acute peritonitis caused by a rupture of either the cyst or its pedicle; (5) strangulation by a band formed by a pedicle of the cyst.

Termination.—Cases not operated upon may terminate in any one of the following ways:

1. The cyst, especially when hydatid, may regress or remain quiescent.
2. Perforation may occur into the intestine, and the contents of the cyst be thus discharged.
3. The cyst may rupture into the peritoneal cavity, causing peritonitis and possibly death.
4. Extreme emaciation may end in death, probably owing to compression of the lacteals.
5. Acute intestinal obstruction may ensue.

Treatment.—Operative interference is necessary in both acute and chronic cases. As soon as the abdomen is entered three methods of operation are open to the surgeon. He may:

1. Stitch the wall of the cyst to the abdominal parietal peritoneum, open and drain the cyst.
2. He may remove the cyst after aspiration, either by cutting through the opening

layers of the peritoneum in the pedicle, inverting the edges and applying a series of Lembert sutures, with or without peritoneal drainage; or if no pedicle be found the peritoneum may be incised and the tumor enucleated.

3. He may remove cyst and involved intestine by a resection of the gut and mesentery, with subsequent intestinal anastomosis.

The less prolonged and simpler the chosen operation is the greater the chances of success. D.

A New Method of Intestinal Anastomosis

J. Shelton Horsley, M. D., in the *N. Y. Poly.*, claims for this the following advantages: It can be rapidly applied with simple sutures, and gives a diameter at the sutured portion greater than the normal diameter of the intestine, and so obviates stricture.

The usual preparations and incisions are made. The portion of bowel to be excised is stripped of fecal matter and fecal flow prevented by tying each end with sterilized tape passed through the mesentery.

The bowel is restored and a V-shaped section removed from the mesentery. The mesenteric sides of the bowel are placed in apposition, the open ends of bowel pointing in the same direction, and held there by a forceps or clamp. A finger of the left hand is inserted into one end of the intestine, and the thumb into the other, and over them as a bobbin, a Cushing suture of fine silk in an ordinary cambric needle is commenced. The first stitch approximates the portion of the two limbs of the intestine near the mesenteric attachment. The suture is then carried obliquely for about two inches, when dealing with small intestine, to the border opposite the mesenteric attachment, and continued over the other side, where it stops at a place corresponding to its point of commencement. Here the needle is left on the thread and an artery-forceps, padded with sterilized gauze to prevent injury to the thread seizes it where it emerged at the last stitch. This keeps the sutures tight. The bowel is then partly everted, exposing a V-shaped septum grasped by the artery-forceps first applied. This septum is cut away, leaving a margin of one-third of an inch. An overhand suture of silk in a curved needle is then commenced at one edge of the "shelf," left by cutting away the septum, and is carried through all the intestinal coats. When the suture reaches the end of this shelf, it is continued by slightly invaginating the rest of the resected ends, which consists of about one-fourth of the entire circumference. It terminates

at its point of commencement. The first line of sutures is finished by continuing it about one-fourth of an inch from the over-hand suture. The incision in the mesentery is closed, the intestines lightly sponged with gauze wrung out of hot sterilized salt solution and dropped back into the abdominal cavity.

Of three dogs operated on by this method two made excellent recoveries, and the third died in seventy-two hours, showing evidences of fecal fistula. V.

Treatment of Backward Dislocation of the Thumb—First Phalanx

J. Hutchinson, Jr., in *Brit. Med. Jour.*, No. 1933, p. 129, lays great stress on the part played by the two sesamoid bones and the glenoid ligament in backward dislocations of the thumb. He recommends that a careful trial should be first given to the manipulation method. Should this fail he introduces a knife behind the base of the phalanx opposite its center and right on the dorsum of the thumb, the extensor tendon being easily avoided. The displaced glenoid ligament is divided as it lies on the back of the metacarpal bone, the knife being made to cut downward until its point is stopped by the base of the phalanx. This allows the sesamoid bones to slip on either side of the metacarpal head. This method of section divides no important structures, is perfectly safe with aseptic precautions, and will not interfere with the subsequent utility of the joint. It is, therefore preferable to all methods involving a palmar incision.

The Influence of Diseases of the Nares and Pharynx on Aural Affections

Lewis S. Somers (*University Med. Mag.*, IX, No. 11), from a study of 600 cases of middle-ear diseases, formulates the following conclusions:

1. Sclerosis of the middle ear is usually the result of previous nasal or pharyngeal disease.

2. Otitis media suppurativa is a common and frequent result of acute or chronic naso-pharyngeal disease.

3. Fully 75 per cent. of all forms of middle-ear disease will show on examination, or give a history of naso-pharyngeal disease.

4. Sixty-four per cent. of tympanic affections are coincident with pathological changes, either in the nares or pharynx, or both.

5. Sclerotic or atrophic changes of the naso-pharynx are of little consequence in the production of deafness as compared

with chronic hypertrophy or any morbid change producing congestion of the nose or throat.

6. Of nasal affections, hypertrophy of the turbinals is the most potent factor in the production of aural disease. Deviated septum and exostoses influence the tympanic cavity by producing changes in the atmospheric pressure.

7. Aural affections are more frequent in hypertrophies of the postnasal space or naso-pharynx than in either pure nasal or pharyngeal disease.

8. The effects of passing disease of the nares or pharynx in the production of middle-ear disease are of much importance.

9. General diseases, such as measles, with local naso-pharyngeal manifestations, exert a marked causative influence in the production of middle-ear disease.

10. To a great extent the successful issue of aural disease depends upon appropriate naso-pharyngeal treatment. G.

A New Method of Treatment of Inoperable Carcinoma

Dr. Batson, of Glasgow, in the *Brit. Gyn. Jour.* (Pt. XLIX, p. 24), refers to a case in which the mamma, axillary glands, and part of the pectoral muscles had been removed and found to be cancerous. Three months later the disease again manifested itself, and the case was considered hopeless for operation. Thyroid was given to a physiological extent, but in vain. The tubes and ovaries were then removed, and the thyroid again administered. In little more than two months she was much improved; in five months the malignant tissue had become yellow and fatty, and in six it had disappeared; at the end of twenty-one months the tissues were sound and the woman was in good health. The value of the case to the author was that it seemed to throw some light on the nature of carcinoma. The three points as he thought to be considered were: (a) The possible mode of origin of the epithelial cancer-cells; (b) the relation of the cancer-cells to surrounding tissues; (c) the exciting cause of the cell-proliferation.

(a) The origin of the cancer-cells. The view held in Glasgow was that the normal cells of the part became gradually transformed to cancer-cells, i. e., it seemed that the epithelium of the part had taken on a special action, whereby area after area was by degrees invaded. In short, cancer was a local infection. The value of recurrent and secondary growths and nodules was that they gave an idea as to the origin of the growth. To take the case of cancer of the liver secondary to cancer of the breast,

they found that the breast-cells had become transplanted in the liver, while there was no proliferation of the liver-cells themselves. Now, if the whole growth in the liver had arisen from the proliferation of a cell implanted there from elsewhere, why might not such a process have been at work in the first place? In other words, it might be held, not that the proliferation of the epithelium in the primary growth was a sign of a starting rebellion in the tissues, but rather that it was an indication of a protective process in view of impending danger, a measure of defence against the hostile cells which were advancing to the destruction of the tissues locally, and of the body at large.

(b) The relation of the cancer-cells to surrounding tissues. In the masses of epithelium of a fast-growing carcinoma no blood-vessels were found; therefore, the growth must be nourished by surrounding lymph and by neighboring cells; from this the writer concluded that carcinoma-cells must live on these neighboring cells. This view explained the fact that some tissues were very resistant to cancer; some tissues formed better pabulum than others; of course, in any case the growth must eventually depend on the lymph for its nourishment. These considerations also explained the different course of carcinoma in different people.

(c) The exciting cause of cell-proliferation. The most recent theory was that of parasitic origin. This, B. claims has not been proven. The second explanation was Cohnheim's theory of the inclusion of epithelial cells. The third was that of Good-sir, who held that every organ had a nutritive center in the shape of a few cells which normally disappear after they have done their work, and which, if they persist, may give rise to new growths. To these the author adds a fourth explanation, which was to be found in the supposition that the cancer growth was due to a return on the part of the cells of the growth to the activity of the germinal epithelium. In all cells there was a certain reproductive power, which became lessened by the specialization of the cells; but after this specialization subsided, the reproductive activity might re-awaken, though it was not known what was the potentiality of cells with regard to their reproductive power. It had seemed possible that in the case of the breast actual germinal cells might be present, derived from the ovary. But in any case the influence of ovaries and testes on local cell-activity was well known, as illustrated by the growth of the antlers of the stag.

In explanation of the cases referred to, two suppositions could be offered: (a) That

it was possible to influence the proliferation of the cancer-cells. (b) That it was possible to influence the tissues in which they lived. If cancer started from a single cell, probably it would not be possible, after a time, to influence the growth itself. If, on the other hand, the change was one from normal to abnormal epithelium, it would be susceptible of greater influence by acting on the surrounding tissues. The treatment of osteo-malacia by removal of ovaries showed that such an influence could be brought to bear; and so also in cancer, the removal of ovaries and testes might exercise a marked influence on the growth.

Further, B. believed that in thyroid extract he had an important auxiliary substance. The nature of its action was not known beyond this, that it appeared to modify the lymphatic elements and channels; and it was through these channels that the spread of cancer occurred. He believed, therefore, that by the removal of the ovaries and by the administration of thyroid extract it was possible to modify considerably the cancer process. Since the first series of cases, he had treated other cases in the same way, including five breast-cancers, but in not one of the latter had there been success; so that he was forced to the conclusion that after the growth had reached a certain point the treatment was useless. His observations were all in favor of early operation. After removal, if recurrence took place, the removal of the ovaries and tubes might be tried if the patient were young; if near the menopause, thyroid treatment and removal of the ovaries should be tried, but if secondary deposits had occurred, further treatment would be useless.

P.

Mental Disturbances Following Plastic Operations

Dr. Jno. A. Lyons, of Chicago (*Amer. Gyn. and Obst. Jour.*, Sept., 1897), reports two cases of the foregoing, the mental faculties of the patients not having been disturbed previous to operative procedures. As regards the first case, abdominal and pelvic examinations were negative except for an enlarged uterus, subinvolved and endometric because of an exceedingly large bilateral laceration of the cervix, the os admitting an index finger. A curettage and trachelorrhaphy were subsequently performed. The silkworm-gut sutures were removed eight days later, with primary union. For the following five months the patient failed to menstruate, her abdomen increased in size, there were morning nausea and other symptoms of pregnancy. Following the operation, her mental faculties

were disturbed, she being frequently oblivious of her surroundings. Acute dementia supervened, due to the announcement of the death of an only brother. The dementia disappeared two months thereafter. Five weeks after her brother's death, she consulted the doctor for pre-menstrual symptoms and threatened abortion. Examination showed the absence of pregnancy, the uterus being normal as to size and position. This knowledge caused some temporary grief, but no dementia followed, the menses appearing shortly after, normal and painless. The second case was one operated upon successfully for complete laceration of the perineum, the patient's mind becoming completely unbalanced in less than two months thereafter. She had become morose, gloomy, and exceedingly careless as to everything. This state of melancholia or mania continued for some five or six months, and as mysteriously disappeared, she being delivered subsequently of a child without the sign of a perineal tear. The author is inclined to believe that in the first case exhaustion previous to operation, and directly due to the torn womb, combined with the knowledge of her brother's kidney trouble and death, was responsible in great measure, and perhaps entirely so, for her mania. The amenorrhea was due to what psychologists call suggestion. In the second case there was absolutely nothing but the weakened condition of the general health, followed by the operation, responsible for her mental condition. From the author's experience in mental disturbances from any cause, very large doses of chloral and bromide are not only necessary as sedatives, but are, as a rule, exceedingly well borne by them.

L.

A Contribution to Craniotomy

Dr. E. Braatz (*Centrab. für Chirurg.*, 1898, 3, 57-64) has lately invented two instruments designed to make easier and quicker the operation of opening the skull. The method described is a modification of that of Obalinski, and consists in boring a series of holes in a half-circle around the piece of skull to be removed, and then uniting them by sawing through the intervening bone with a Gigli's wire saw. The instrument used to perforate the skull is like a small carpenter's brace having a bar, with a handle on the free end, attached to the crank part taking the place of the hand generally used in turning it. Instead of using as the bit the small trephine advised by Obalinski, an ordinary bone-drill of 3mm. is employed. The advantages of using such a boring apparatus are: The brace described

allows of an even pressure, heavy or light as the operator desires; the turning handle allows the brace to be made comparatively small and in using a drill instead of a trephine the perforation of the skull is accomplished more rapidly and with greater precision. In passing the saw around the bone Dr. Braatz uses directors of various sizes according to the distance between the different holes. These directors are also grooved so as to provide protection to the dura while the sawing wire is being pulled into place. This method of opening the skull, it is claimed, is greatly superior to chiseling, as the concussion from hammering is avoided, and on account of the ease with which the operation can be carried through both time and trouble are saved.

T.

Plastic Operation for Saddle-nose

Dr. J. P. Warbasse (*Brooklyn Med. Jour.*, 1898, XII, 96) publishes an article on operation for the relief of saddle-nose. An incision begun about half-way down the ala of the nose is carried along the muco-cutaneous junction, across the septum, ending on the opposite side, at a point corresponding with the starting one. Through this incision the skin is dissected up over the whole extent of the nose and the immediate adjoining parts. The bleeding having been stopped, a bridge of hard rubber is inserted and the wound closed by a row of cutaneous stitches. A case is given in which twelve months after the operation, no irritation from the presence of the bridge exists.

T.

Chlorinated Soda in Gonorrhea

According to Dr. Chas. Chassaignac, in *Jour. Cut. Gen.-Urin. Dis.* (N. Y., 1898, XVI, 19), the advantages of chlorinated soda in gonorrhea depend on its possessing the following properties: It is alkaline and antiseptic, not irritating to the urethral mucous membrane when used in proper dilution and on account of its not coagulating albumen, it is very penetrating. The solution to be used is the liquor sodæ chlorata, U. S. P. Acute cases are more adapted for its use than are the chronic ones, but also in these latter it is generally beneficial. For treatment three points are important to remember: 1. The solution should be of good quality; 2. Explicit directions should be given the patient as to how to inject. 3. The strength of the injection must be modified to suit the individual case, and for convenience sake it is well to have on hand three dilutions of the official solution, as fol-

lows: 1-to-48; 1-to-32, and 1-to-24. For acute cases the weaker solution is appropriate, and as the case becomes chronic or becomes tolerant to the 1-to-48, the stronger are to be resorted to. Starting at first with three or four injections a day, the number should be diminished until the patient seems well, and then for the week or two following injections once a day should be kept up. The method of use is the same as in other injections given with the small hand-syringe. T.

Implantation of the Ureters into the Rectum

Dr. G. R. Fowler read a paper before the Brooklyn Surgical Society (*Brooklyn Med. Jour.*, 1898, XII, 115) concerning operation for extrophy of the bladder. The patient is put in the Trendelenburg position and a median incision made through the abdominal wall. The ureters are isolated and cut off obliquely from their attachment to the bladder, and then inserted into the rectum in such a manner as to allow them to run between the muscular coats and to have their ends covered in by a flap-like valve of mucous membrane. In the case reported the operation proved to be a perfect success, the rectum became absolutely tolerant of the urine, and at the last date urination took place once every six hours and defecation once a day. T.

A Foreign Body in the Ear

Professor Burnett, in the *Phila. Poly.* (Vol. VI, No. 50, 1897), gives the following rules to be observed in cases of foreign bodies in the ear:

1. Always examine an ear said to contain a foreign body, and find out whether such is the case before endeavoring to remove it.

2. Whatever a child puts into its ear, or allows to be placed there, is placed there easily and painlessly, and can be as easily and painlessly removed by any physician who can properly syringe the ear.

3. A foreign substance was never known to be impacted in a child's ear by the child. Neither has a foreign body ever been impacted in the ear by syringing.

4. When impaction has occurred, or any injury to the ear, after the insertion of an inanimate substance by the child into its ear, such injuries have been the result of instrumental endeavors at extraction by means of probes, hooks, forceps, etc. The latter are never needed by anyone at first, as the syringe will suffice in all cases where no violence has been exerted upon the ear. Instruments of any other kind should never be employed at any time by any hand but the most skillful.

5. If animate bodies, insects, etc., get into

the ear, a few drops of oil will smother them and they can then be syringed from the ear. Maggots can be destroyed by a few drops of ether or chloroform put into the ear. They can be lifted out by means of forceps.

A foreign body in the ear is a simple matter at first, and will remain a simple matter if the general physician will remember that the rule of safety is "the syringe or nothing." S.

The Relation of Germs to Accidental Wounds

Dr. H. Riegenbach (*Deutsch. Ztschr. f. Chir.*, 1897, XLVII, 33) has given us quite an extensive and detailed work on the relation which bacteria hold to ordinary accidental wounds. The article opens with the following sentence: "The hope of surgeons to be able, by means of antisepsis or asepsis, to kill germs contained in or to keep them removed from accidental wounds is an ideal which as yet has not been realized." In closing, the results arrived at from some twenty-six experiments are summarized as follows:

1. Accidental wounds of the surface of the body contain large numbers of bacteria.

2. Among these bacteria are found most of the pathogenic forms, i. e., those capable of causing infection of the wound.

3. The bacteria are found on the surface of the body, and are either brought into the wound by the inflicting instrument, or else they grow from the skin-surfaces into the secretions coming from the wound.

4. The development of the bacteria is in direct ratio with the time which elapses before the patient comes under proper treatment.

5. The antiseptic treatment is more efficient in killing the bacteria than the aseptic, and therefore is better fitted for use in accidental wounds. T.

Cancer of the Rectum

Dr. Tuttle concludes his article on the subject as follows (*Jour. Amer. Med. Asso.*, 1897):

1. Cancer of the rectum can be cured in over 10 per cent. of the cases.

2. The mortality from the radical operation, though still considerable, is not alarming, and is decreasing with every year's experience.

3. The radical operation prolongs life on the average over 100 per cent.

4. As a palliative measure, excision is far more successful than any other measure.

5. The sequences, though numerous, are not at all intolerable and should weigh little in our consideration when it is a question of so serious a disorder as cancer of the rectum. R.

OBSTETRICS AND GYNECOLOGY

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Celiotomy in Gynecology

The value of operative interference in peritonitis resulting from affection of the female sexual organs has, till recently, been generally recognized in only two forms of the disease, viz., the tuberculous and perforative. Franz. v. Winckel (*Neber die chirurgische Behandlung der von den weiblichen Genitalien ausgehenden Bauchfellentzündung; Volkmann's klinische Vorträge*, No. 201, Dec., 1897) recommends a much more general application of celiotomy, and divides suitable cases into five classes:

1. Tubercular peritonitis in all its forms is curable by abdominal section with evacuation of the exudate, although it is still a moot point whether or not the cavity should be flushed, and if the former, whether aseptic or antiseptic solutions, are most advantageous. The wound is to be completely closed and no provision made for drainage.

2. Gonorrheal peritonitis, although usually not very severe, requires operation when pyosalpinx tumors exist. The size of the tumors determines whether abdominal section or an anterior or posterior vaginal operation is to be performed. Drainage is unnecessary in most cases.

3. Diffuse post-operative peritonitis is to be treated by a partial reopening of the original wound and evacuation of the pus. Drainage is indispensable.

4. Diffuse puerperal peritonitis indicates operation as soon as the pus-formation has reached an appreciable degree, drainage is necessary, and most writers recommend irrigation of the cavity.

5. Perforative peritonitis is nearly always fatal unless prompt surgical measures are taken. Abdominal celiotomy with free incision is to be performed as soon as possible and the affected organ or organs extirpated. Drainage is needed only when purulent foci are left behind. J.

Vicarious Menstruation From the Lungs

Dr. T. L. Chadbourne (*Jour. Am. Med. Ass.*, Vol. XXX., p. 189) reports a case of the above. A young woman, aged 18, came to the Michigan University May 8, 1896, for examination of her lungs, as she was thought to have consumption. She gave the following history: She had menstruated at 14; had generally been well; had typhoid three years previous, and slight hacking since. For the last year she has had slight yellowish expectoration, never bloody ex-

cept as stated below. Since her eighth year her cervical glands have been more or less enlarged. Fifteen months before coming to the hospital she took cold and the next afternoon, during a severe coughing fit, suddenly began to spit blood. This she continued to do for four days. Her menses were due at this time, but the regular flow did not occur. For the next three menstrual periods the same phenomena were observed. The regular flow then reappeared and was normal for four months and was replaced for five succeeding months by hemoptysis. The three months preceding her admission to the hospital the flow had been regular. With the hemorrhage there are pain in the chest and a good deal of nausea before and afterward. During a stay of a week in the hospital, beyond the enlarged glands repeated examinations revealed nothing abnormal. No sputum was obtained. The patient was lost sight of till February 2, 1897, at which date she reported herself as being in good health and weighing fifteen pounds more than when in the hospital. Menstruation had been regular.

Mechanism and Treatment of Perineal Lacerations

Dr. J. Price (*Virg. Med. Semi-Monthly*) declares that many who profess intelligence of surgical procedures instituted for the relief of abdominal difficulties, are entirely unprepared to deal with injuries of the perineum or cervix.

In plastic surgery of the perineum a great deal depends upon whether the tear be partial or complete, central or lateral. It should be remembered that, with rare exceptions, every perineal tear begins on the inside, proceeding from within outward, there being often most serious internal laceration without any external manifestation, so far as the skin is concerned. Complete perineal laceration is a term usually applied to tears through the sphincter, these tears being usually regarded as the most important on account of the discomfort they entail. Such, in the opinion of the author, ought to be considered as including all deep fascial and muscular lacerations, either on one or both sides, with a co-existing or non-co-existing sphincter tear, as the case may be. All these tears should, therefore, be approached as distinct surgical lesions, to be repaired in the line of their anatomical destruction, and not as cosmetic operations, the object of which is to obtain superficial appearances without regard to completeness and utility. The author furthermore states, with evident truth, that heaping up of tissue, outside the lines of resistance, and tension or severe thickening of the mucous membrane and

skin, does not make a true perineum; neither does a set of outside sutures, however much they may draw the parts together, afford any anatomic counterpart of a perineum. From this point of view all the so-called flap-splitting operations for perineal tears are only puckering operations, bringing parts within the sutures that have never been severed, and in many cases taking them out of their proper relations. Such operations are really misleading superficial procedures. The Emmett operation, as originally devised and afterward modified by him, is the foundation for all successful operations on the lacerated perineum, either with or without sphincter tear. This, it is to be remembered, is always an inside operation. The loss of tissue objected to in the Emmet operation is more than equalled or compensated for by the lateral apposition; by its denudations, are brought into relation large triangular levels on one or both sides, putting into relation the ends of torn muscles. To insure the complete success of an operation for complete laceration of the perineum especially, extreme care is necessary to restore the bowel and to treat the sphincter as an integral portion of the bowel, bringing the sutures down so as to leave no pocket between the bowel proper and that portion into which the sphincter is inserted. The instruments formerly suggested as the essentials for perineal repair, of which the Peaslee or Baker-Brown needle may be taken as the type, have no place in the delicate scientific surgery of these parts. Big sutures, clumsy instruments, heavy ligatures, have no place here. L.

Labor in a Case of Elongation of the Vaginal Portion of the Cervix Uteri

Dr. H. R. Coston (*Virg. Med. Semi-Monthly*) reports a rare case of the above, occurring in a colored patient, aged 25 years, VI-para. When called in the case labor had been in progress about twelve hours. The midwife informed him there was "something came into the world as big as her fist"; that it had been out all day, the patient also stating that the first indication of labor was the sudden prolapse of this body through the vulva. The pains had been strong and regular all day, and the patient was becoming exhausted from pain and hemorrhage. Upon examination, the cervix was found projecting at least two inches external to the vulva, the cervix being about three and a half inches long. Upon intra-cervical examination, the head was found occupying the right occipito-posterior position and lying on the perineum; the elongated cervix was very edematous, patulous, and easily lacerated; with a little effort the en-

tire hand was soon introduced within the cervix. Apparently, the only reason the child had not been delivered was the lack of a resisting force to compel the os to slip back—retract—over the child's head. Ergot was given hypodermically, and an effort was made at the same time to push the cervix over the child's head, which, however, could not be done. Forceps were then applied and the child (occiput?) delivered in the R. O. P. position, without perineal tear, although the head was still within the cervix when it had passed over the perineum and out of the vulva. With one hand the child's head was steadied by means of the forceps, while with the other hand the elongated cervix was pushed over the head, the cervix being lacerated to the depth of two inches. Though hoping the cervix would subsequently atrophy (retract?) with the uterus proper, the doctor realizes that an amputation of the cervix is greatly needed. L.

Fatty Tumor of the Omentum

At a recent meeting of the New York Woman's Hospital Society, Dr. Bache McE. Emmet, presented a fatty tumor of the omentum, removed from a patient 32 years of age, and giving the following history: About the navel there presented a mass which, when standing, was about the size of an adult fist, but when lying down was considerably smaller. An exploration of the abdominal wall showed that there was a separation of the tissue in the median line, at the umbilicus, a mass presenting at the opening of the umbilicus, which mass could be readily grasped. It was exceedingly painful to the touch. The case presented itself as a hernial opening and a mass within it, all one with umbilicus. Many physicians had examined the patient but none would pronounce definitely upon it, so nothing had been done for a long time. Dr. Emmet took the growth to be a malignant mass, in that its history showed that it was not of very long standing, that it seemed to be quite varying in consistency, that it was adherent at one point and apparently on the increase; but the patient had not shown any symptoms of emaciation, and there were no other points that he could fasten on. The opinion of Dr. Thomas and other surgeons at the hospital suggested merely an umbilical hernia. The mass was subsequently excised. The growth was very closely related to the umbilicus and the urachus, which, at the time, was followed down, ligated, and excised as far down as could be reached without disturbing the intestinal masses overmuch. The masses proved to be omental fat which

had been subject to inflammation and atrophy. Dr. Emmet, in looking up the matter of tumors of the omentum, finds that they are exceedingly rare, the present specimen being especially an unique one. There was one point which occurred to Dr. Emmet, whether one might suppose that this process or change going on in the portion of the omentum near the umbilicus, and which had become fastened to it, could in any way thin out the tissues, induce a like atrophy in the abdominal wall, and so produce this umbilical hernia. The woman was very fat at this point, but there was no other history to account for this umbilical opening. L.

Destruction of the Endometrium by Hot Irrigation

In cases of obstinate uterine hemorrhage, not otherwise to be relieved except by extirpation of the organ, such as the so-called preclimacteric, and the flooding associated with myomata, Schick (Prague) (*Centralbl. f. Gynäk.*, No. 23, p. 695, per B. Gynæ., J., Part L, p. 266), after some experiments on extirpated uteri, has tried in four instances to destroy the endometrium by boiling water introduced into the uterus through a Bozeman-Filtsch catheter, the vagina and vulva being protected by constant irrigation with ice-cold water. The irrigation was kept up for half a minute only. The first case was unsuccessful, the other three turned out well. Schick admits that he has not yet succeeded in completely destroying the endometrium, but attributes his failure to the shortness of time during which, for prudential reasons, the application was applied, and recommends his method for further proof. P.

Hysterectomy, with Subsequent Hemorrhage Controlled by Hypodermic Injections of Ergotol

Dr. W. E. Ard (*Am. Gyn. and Obst. Jour.*, June) reports a case of the above, the patient's age being 36, married eighteen years, one child. She was very anemic and had lost much flesh, consequent upon a constant bloody discharge, usually very free, from the vagina for many months previously. Examination detected a small fibroid tumor in the posterior wall of the uterus. The uterus was curetted three separate times subsequently without much relief. A vaginal hysterectomy was then performed, ligatures being applied to the uterine arteries and clamps to the ovarian arteries. The ovaries being healthy were not disturbed, although in removing the tube on the right side for marked salpingitis, the ovary was

slightly torn, there being no hemorrhage from it, however, at the time. Three hours later, when summoned, a secondary hemorrhage was detected. Careful examination of clamps and ligatures revealing no hemorrhage therefrom, the tear in the ovary was recalled and the bleeding was attributed thereto. The patient being in a collapsed condition, to open the abdomen was out of the question. Ergotol was administered hypodermically instead, in 10-minim doses, the second dose being given half an hour afterward, and repeated every two hours for ten hours. Under this, and the use of stimulants, the pulse responded well, and the patient rallied nicely, making an uneventful recovery. The specimen showed a polypus attached to the fundus and extending to the internal os; also two small sub-peritoneal fibroids on the fundus, and one in the posterior wall. L.

Personal Experiences with Vaginal Section

The legitimate scope of vaginal section is summarized by Dr. A. Brothers (*Am. Gyn. and Obst. Jour.*, June) as follows: 1. For exploratory purposes. Examining the adnexa. Breaking up adhesions behind the uterus preparatory to fixation operations. Separating similar adhesions about the adnexa. 2. In cases in which simple oöphorectomy is indicated. 3. In cases of small accessible fibroids. Hysterectomy or morcellation can easily be supplemented when necessary. 4. In cases in which it is deemed desirable to shorten or attach the round ligaments beginning at their uterine insertions, or to do a vesico-uterine fixation. 5. In cases requiring incision and drainage for pelvic abscess, pus-tube with adhesions, hydrosalpinx and pelvic hemothecoele. 6. In cystic condition of tubes and ovaries when small and not firmly bound down in adhesions. 7. In cases of chronic salpingo-oöphoritis with atrophied ovaries and thickened tubes. 8. In cases in which "conservative surgery" of the adnexa is desirable. L.

A New Treatment of Uterine Myoma

In a short paper Prof. Dr. Howitz Kopenhagen (*Der Frauenarzt*, 1897, heft 4, April, B. Gynæ. J., p. 267) considers the effect of lactation in producing involution of the uterus after parturition and its power in causing diminution or absorption of myomata when these are present. He describes two cases of large intra-mural myoma, both treated at the same time, and both complicated by pregnancy. Both patients were confined of living children, and both

made a satisfactory recovery from the "lying-in." One of the patients suckled her child, and in four months her tumor had diminished in size. The other patient had but little milk, and did not persevere with lactation; and in this case the myoma was unchanged. From the consideration of these and similar cases, from the consideration of the physiological effect of suction of the nipple in producing contraction of the uterus and of prolonged lactation in occasionally causing atrophy, the author has been induced to try artificial suckling or aspiration of the nipple in patients who are not pregnant, but who are suffering from myoma. Seven cases are reported: in four of these a secretion of milk was induced by the aspiration, two refused to respond to treatment, and in one case the time had been too short for a definite report. In three of the cases the tumor had decidedly decreased in size; in three the measurements remained the same; in only one was there any marked decrease of hemorrhage. The aspiration in these cases had been limited to "from five to ten minutes morning and evening," but the author's intention is that such aspiration should, if possible, imitate closely the process of natural suckling, and that accordingly the aspiration should occupy a longer time, and be more frequently repeated.

P.

Uterine Flexions and Versions

Dr. Fothergill (*Brit. Med. Jour.*, No. 1933, p. 153), before the North of England Gynecological and Obstetrical Society, December 10, read a paper in which he contended that in every case of distortion or displacement of the uterus the pathology should be carefully thought out before proceeding to rectify the condition by the introduction of the pessary or any of the fashionable operative measures. Thus, ante flexion and retroversion due to old utero-sacral cellulitis should not be diagnosed as "displaced uterus," but as "old cellulitis," and treated accordingly.

Cystic Movable Kidney

Dr. E. B. Cragin, at a meeting of the New York Obstetrical Society (*Am. Gyn. and Obst. Jour.*, '97), reported an interesting case of cystic movable kidney, occurring in a patient aged 49, a complicating epithelioma of the cervix being also present. Examination of the abdomen gave evidence of a movable cystic tumor situated in the right iliac region. The tumor appeared to be attached above, and to have no connection with the pelvic organs. A vaginal examination disclosed an epithelioma of the cervix with eroded surface, bleeding freely

on manipulation. After curetting and cauterizing the cervix, the abdomen was opened and the uterus removed. The abdominal incision being prolonged upward, the tumor, which proved to be a dilated kidney, was also removed. The peritoneum was then closed over the site of the tumor, a small gauze drain being introduced from the lumbar region. The kidney was about the size of a cocoanut and cystic. No obstruction was found in the urinary tract. The kidney was merely a sac, with scarcely any cortex preserved. The etiology of the condition seemed to be the kinking of the ureter, due to the excessive mobility of the kidney.

L.

The Treatment of the Vomiting of Pregnancy by Palpation

Geoffrey (*La Sem. méd.*, V, 39) considers the vomiting of pregnancy as due to a reflex contraction of the pylorus and duodenum, but especially of the iliopelvic angle of the colon. The spasmodic contraction of the pylorus and duodenum is secondary to that of the iliopelvic angle of the colon, and caused by it. Treatment is, therefore, addressed to the latter. The contraction is accompanied by hyperesthesia. Both the hyperesthesia and the contraction are readily made but by palpation. He has found prolonged palpation an effective method of treatment. The hyperesthesia is relieved and the contraction subsides after two or three sittings. The vomiting disappears at the same time.

G.

Treatment of Circumscribed Pelvic Hemorrhage

To avoid confusion caused by the term "pelvic hematoma," "pelvic hematocele," "intra- and extra-peritoneal hematocele," M. Rosenwasser (*Virg. Med. Semi-Monthly*, '97) distinguishes two clinical varieties of pelvic hemorrhage; free hemorrhage being active hemorrhage into the abdominal cavity without tumor-formation, and circumscribed hemorrhage, in which active hemorrhage has ceased and the blood has become energetic, forming a distinctly palpable tumor. The treatment of free hemorrhage, which constitutes not more than one-fourth of all cases of pelvic hemorrhage, is by immediate abdominal section. Not more than 40 per cent. of cases of circumscribed hemorrhage require surgical interference. Unless there be a distinct indication for immediate operation, the author places the patient at absolute rest under reliable supervision. From an experience of thirty-five cases thus treated, eighteen of which were restored to perfect health without operation, the follow-

ing conclusions were arrived at by the author: 1. That unless they require immediate operation for cause when first seen, they can be submitted to careful supervision in hospital or home without danger. 2. That when thus watched, more than one-half will get well without operation by keeping them at absolute rest for an average period of six to eight weeks. 3. That when they cannot be watched, or refuse to rest, early operation is to be urgently recommended. 4. That operation is necessary only for special indications, of which the most important are sepsis with or without suppuration, recurrent hemorrhage, growth of tumor, non-absorption after reasonable time, and compression of the pelvic viscera (rectum or ureter). 5. Abdominal section is to be preferred to vaginal incision in most cases.

L.

Melancholia Cured by Removal of Interstitial Fibromata of the Cervix Uteri

Dr. T. K. Holmes (*Am. Gyn. and Obst. Jour.*, Vol. XI, No. 4, p. 423), from experience and observation, is convinced that puerperal mania is nearly always dependent on some lesion of the generative organs, as shown by a report of fourteen cases presented before the Canadian Medical Association some years ago, in all of which sanity had been restored by treatment directed to the pelvic organs. Ten additional cases have been cured since then in a similar way, three cases of apparently incurable melancholia associated with interstitial cervical fibroma having resulted in complete recovery on removal of the tumors. The latter cases are referred to in detail. The author rightly says that affections of the cervix and lower segment of the uterus produce a much more profound impression on the mental and nervous condition of women than disease of other parts of the generative apparatus, due mainly to the fact that the former are abundantly supplied by sympathetic nerves. The suggestion is made of having a specialist in gynecology appointed to every asylum for the insane, which would lead many women to be restored to their families in health who would otherwise end their days in an asylum.

L.

Strangulated Parovarian Cyst

At a meeting of the North of England Gynecological and Obstetrical Society Dr. Arnold Lea (*Brit. Med. Jour.*, No. 1933, p. 155) showed a specimen of strangulated parovarian cyst. The patient, a multipara, aged 42, was taken, while stooping, with intense pain in the left side of the abdomen and sickness. Five days afterward a tumor, behind which was the retroflexed uterus,

was felt filling the left side of the pelvis. For thirty-six hours the vomiting had been bilious and dark-colored. The temperature was 101°, and the pulse 118. Laparotomy, which was immediately performed, disclosed a parovarian cyst of the right broad ligament lying in front of the sigmoid flexure and rectum, to which it was attached by numerous recent adhesions. The cyst was rapidly removed, the pelvis flushed with salt solution, and a drainage-tube inserted. The temperature was 99.60 and the pulse 106 after the operation. The patient progressed favorably for twenty-four hours, when there was a profuse intestinal discharge followed by collapse and death within an hour. The necropsy showed that the cyst had partly mechanically, and partly also by setting up local peritonitis caused obstruction, which had been complete five days before operation. The author suggested in similar cases copious subcutaneous or intravenous injections of salt solution along with stimulants and small doses of morphine to check the peristalsis.

Physical Development of Women

Dr. Harriet E. Garrison (*Jour. Am. Med. Ass.*, Vol. XXX, p. 185) quotes with approval the saying of the late Dr. Frank Hamilton that calisthenics may be very genteel and romping very ungenteel, but one is the shadow, the other the substance, of healthful exercise. Girls can only obtain health as boys do by running, tumbling, by all sorts of innocent vagrancy. If girls were turned loose to amuse themselves spontaneously, to run up hill and roll down, there would be fewer headaches in adult life. Rolling gives exercise to various sets of muscles without overtaxing them in trying to support the trunk. Many girls with round shoulders and rickety spines, in the author's opinion, would have been saved these deformities had they done more tumbling. The school curriculum should be made broad enough to include development of body as well as mind. The school-houses should be set away from other buildings and should have large, surrounding playgrounds. The civic authorities must take cognizance of the physical needs of girls and provide places, with every facility of reaching them, where basket-ball and other hard games can be engaged in. Every community should provide free bathing facilities within its borders, and women should be urged to make use of these unless they have private arrangements for plunge-baths. Let every physician assist in enforcing the law for shorter working-hours for women, and there will be a brighter, healthier, happier set of women.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Schleich's Anesthetic Mixture

Dr. Willy Meyer, in a letter to the *N. Y. Med. Rec.* (Dec. 4, 1897, p. 835), recommends this anesthetic after considerable experience with it at the German Hospital, New York. He regards it as safe. Schleich experimented with it on a physical and not on a chemical basis, adapting the boiling-point of the narcotic to the temperature of the body. He uses a mixture of three drugs, chloroform, ether, and petroleum ether (benzin—boiling-point 60° to 65° C. [140° — 148° F.]).

Formula 1. Boiling-point = 100.4° F.—Chloroform, 45 c.c. = $1\frac{1}{2}$ oz.; petroleum ether, 15 c.c. = $\frac{1}{2}$ oz.; sulphuric ether, 180 c.c. = 6 oz. Used in short operations.

Formula 2. Boiling-point = 104° F.—Chloroform, 45 c.c. = $1\frac{1}{2}$ oz.; petroleum ether, 15 c.c. = $\frac{1}{2}$ oz.; sulphuric ether, 150 c.c. = 5 oz. For medium length operations.

Formula 3. Boiling-point = 107.6° F.—Chloroform, 30 c.c. = 1 oz.; petroleum ether, 15 c.c. = $\frac{1}{2}$ oz.; sulphuric ether, 80 c.c. = 2-3 oz. Used for major operations.

The measurement is made by volume, not by weight. It is a real solution chemically.

He has used this mixture with the ordinary ether cone—paper and towel. The advantages of this anesthesia are: No cyanosis, salivation, nor superabundant tracheal mucus; no bronchitis nor broncho-pneumonia afterward. Effect on heart less marked than that of chloroform. H.

Internal Treatment of Pyelitis

In the treatment of pyelitis, all means of internal treatment should be exhausted, says Dr. M. A. Robin (*Deut. med. Ztg.*, XVIII, p. 996), before recourse is had to surgical means. Hygienic and dietetic measures must also be considered. The invalids must be guarded against contracting cold, must wear flannel underwear, and massage the skin frequently with camphor spirit and aromatic essences. A milk diet must be the basis of all nourishment, and all ptomain-yielding articles of food—such as fish, chicken, veal, beans, and spices—must be avoided. Alcohol is strictly forbidden, only a small quantity of claret with water being allowed. Sodium benzoate is given internally. It checks fermentation and the deposition of uric acid. It is given in doses

of from 1 to 4 gme. per day, either alone or in combination with balsam tolu or copaiva, eucalyptol, etc. In acute, painful attacks, pills made as follows are given besides:

Larch Turpentine.....6 gme. (90 grn.)
Camphor.....6 gme. (90 grn.)
Tincture Opium.....25 ctg. (4 min.)
Tincture Aconite.....20 ctg. (3 min.)

Divide into 60 pills, and give one thrice daily.

After the sodium benzoate has been given for some time, oil of cade is given instead, changing off to ratauhy, tannin, etc. Of the possible complications, the most important is hematuria, and to combat this the following is prescribed:

Ergotin.....4 gme. (1 dr.)
Gallic Acid.....0.5 gme. (8 grn.)
Syrup Turpentine.....30 gme. (6 fl. dr.)
Linden-flower Water.....120 gme. (4 fl. oz.)

Teaspoonful per dose.

In pyelocystitis, vesical irrigations with 2-per-cent. solution of sodium salicylate are made. The results obtained by this method of treatment, though they be slow at times, still show that pyelitis is not refractory to internal treatment. F.

Parenchymatous Injections of Potassium Oxalate in Phlegmonous Inflammation

Potassium oxalate being known to have the property of preventing or retarding the tendency of organic fluids to coagulate, it occurred to Dr. G. Cavazzani (*Lancet*, No. 3876, p. 1549), of Venice, to utilize this property in the treatment of phlegmonous inflammation by injecting a 1-per-cent. solution into the surrounding tissues so as to diminish the capillary engorgement and the plastic effusion which always exist there under these circumstances. The first case in which this plan was tried was that of a woman who had a large phlegmonous swelling which extended from the middle of the upper arm to the hand and which had been in existence for two months. The acute stage was passed, and there were no collections of pus or patches of slough, but the arm was stiff, swollen, red, hot, and painful. Ten injections were given into the cellular tissue around the affected portion, 30 minims in all being thus introduced. The next morning the swelling, the redness, and the pain had perceptibly diminished; the injections were repeated every three or four days and at the end of three weeks the patient was completely relieved. Subsequently Dr. Cavazzani employed this treatment in several other cases of phlegmonous inflammation with good results. Among them were two cases of phlegmasia alba dolens, which rapidly recovered under the

influence of the same solution, 30 to 45 minims being introduced in ten or twelve points. In one of the cases two repetitions were sufficient; in the other, three. Another case was that of a man who had undergone an operation for inguinal hernia and in whom three days afterward inflammation of the cellular tissue of a somewhat alarming character began to appear. Thirty minims of the solution were injected in eight points situated beyond and around the circumference of the inflammation, and the next day the inflammatory symptoms had subsided. The only inconvenience resulting was a trifling amount of suppuration about two of the sutures of the wound. These injections of potassium oxalate appear to be quite harmless, as no sign of poisoning was observed in any of the cases.

F.

Digestive Ferments

Prof. Chittenden has shown that potassium permanganate, borax, ammonia alum, sodium salicylate, quinine, and the salts of most alkaloids act antagonistically to the peptic ferment; while Dr. H. A. Weber's experiments have proved that the so-called harmless colors—*aureoline* yellow and *magenta*—arrest digestion, even when taken in very minute quantities. Further experiments in the same direction have been conducted by F. D. Simons (*Pharm. Jour.*, No. 1431, p. 457), who finds that peptic digestion is retarded even after prolonged treatment by picric acid, *tropæolin* ooo, and *metanil*-yellow, pancreatic digestion being retarded in like degree by *Bismarck brown*, essence of cinnamon, and *formic aldehyde*. *Salicylic acid* and *wintergreen-oil* were found to retard peptic digestion in a less degree, but both peptic and pancreatic digestion proceeded normally in the presence of essence of *peppermint*, *chrysoidine*, *safranine*, or *methylene-blue*.

F.

Tuberculous Peritonitis Treated by Creosote Enemas

Dr. Thomas, of Geneva, has used (*Sem. méd.*, XVII, p. 222) creosote enemas in five cases of peritoneal tuberculosis occurring in subjects of various ages, and exhibiting symptoms of tympanites, ascites, broncho-pneumonia, anorexia, diarrhea or constipation, febrile paroxysms, tumefactions of the ganglia, or co-existence or pre-existence of simple or double pleurisy. The patients received every evening an enema of 100 or 150 gme. ($3\frac{1}{2}$ to 5 fl. oz.) of emulsion of cod-liver oil containing 0.5 to 2 gme. (8 to 30 min.) of creosote, according to the patient's age, and a few drops of laudanum.

The enemata were well tolerated, provided previous evacuation of the intestine was carefully accomplished. Besides this, a local counter-irritant, consisting of a 10-per-cent. iodized or iodoform collodion, or even *ichthyol*, was applied, but all internal medication was suspended. Under this treatment, the various symptoms were found to recede by degrees, and the general condition to improve.

F.

Inhalations in Catarrh of the Upper Air-passages

Dr. R. Kafemann, Lecturer on Laryngology at the University of Königsberg, recommends the following mixture for inhalation in laryngitis and bronchial catarrh (*Med. News*, V, p. 623):

Menthol.....	8 parts (weight)
Eucalyptol.....	5 parts
Terpineol.....	4 parts
Oil Pitch Pine.....	2 parts

For external use.

A few drops of this liquid are poured into a bottle with a convex bottom, and gently warmed over the flame of a spirit-lamp. The bottle soon becomes filled with balsamic vapors, which the patient inhales through the nose by means of a glass tube ending in a pear-shaped bulb.

Against Soft Corns

Iodine.....	2 grn. (0.13 gme.)
Flexible Collodion.....	3 fl. dr. (12 gme.)
Alcohol.....	1 fl. dr. (4 gme.)
Potassium Iodide.....	2 grn. (0.13 gme.)

Paint the corn every night.

Abortive Treatment of Influenza by Calomel

After an experience of several years, Freudenthal (*Med. News*, LXXI, p. 772) recommends the use of several large doses of calomel in the beginning of an attack of influenza. In order to abort the disease the calomel must be given before the third day. The dose for a man is 0.1 gme. ($1\frac{1}{2}$ grn.), for a woman about 0.05 gme. ($\frac{3}{4}$ grn.), for a child, as many centigrammes (1 ctg. = 1-6 grn.) as the child is years old. Either two or three doses are required. Within six to ten hours after the last dose, the high fever abates, the headache and pain are favorably influenced, or entirely disappear. The coryza and cough never become purulent, and are soon overcome. For persistent nervous symptoms it may be necessary to give an antipyretic. At the close of the treatment, on account of the loss of appetite, tonic bitters are indicated. In a great many cases no medicine except calomel is required. Freudenthal says that the season of the year has nothing to do with the

effectiveness of this treatment, but that the sole factor determining success is the day of the disease upon which treatment is begun. Twenty-five per cent. of the cases were cured within two days. The longest duration of the disease after treatment was six days. The average duration of the disease after treatment was three and one-third days. No complications traceable to the influence of calomel were observed. F.

Palpitation of the Heart

For the purposes of treatment Dr. Huchard (*Med. News*, LXXI, p. 772) divides cases of cardiac palpitation into two varieties: those that are benefited by cardiac stimulants, and those that are not. Those cases arising from ingestion of poisons, coffee, tobacco, and drugs (e. g., quinine), are usually relieved by a removal of the cause. Palpitation due to gastro-intestinal disturbance usually occurs at night, and is associated with dyspepsia and hyperacidity. For the most part these attacks may be cured by large doses of alkalies, and regulation of the diet. Iron, if taken in too large quantities, may also produce palpitation.

There is no necessary connection between cardiac palpitation and cardiac disease. The diseases usually accompanied by palpitation, and which are improved by digitalis and similar remedies, are beginning aortitis, acute endocarditis, and pericarditis, adhesions of the pericardium, and mitral insufficiency. In such cases the following prescription will often be found useful:

Quinine Hydrobromate..... 4 gme. (1 dr.)
Powdered Digitalis... 2 gme. (30 grn.)
Ex. *Convallaria Majalis*. . 2 gme. (30 grn.)

Make into 30 pills. Two to four pills daily.

F.

Menthoxol, Camphoroxol and Naphtoxol

Under the names "Menthoxol," "Camphoroxol," and "Naphtoxol," three new preparations have been introduced as surgical disinfectants by C. Raspe, of Weissensee, near Berlin. They are described (*Therap. Beil. d. Deut. med. Woch.*, XXXIII, p. 74) as 3-per-cent. solutions of hydrogen peroxide, with 1 per cent. of menthol, 1 per cent. of camphor, and 2 per cent. of naphthol, respectively. Camphoroxol contains besides 32 per cent. of alcohol, and menthoxol and naphtoxol 28 per cent. of alcohol each. These preparations were tested bacteriologically by Dr. Beck, who found that, in undiluted form, they killed anthrax spores in three hours; in 10-per-cent. solution, in six hours.

Dr. Wagner, of the Charité Hospital, Berlin, has employed the remedies, usually

in 10-per-cent. solution, in 200 cases of phlegmons, abscesses, sores, and granulating wounds. The results obtained are described as excellent, and no pernicious effects were at any time observed. The applications were made with pieces of cotton saturated with the selected solution, and covered with a sterilized bandage, which was, as a rule, left on for two days before renewing it. These applications not only disinfected the wounds and provoked granulation, but at the same time deodorized the wound-surfaces, the odor of the solution used replacing that of the purulent wounds. Menthoxol was found to be particularly efficacious in this latter respect. F.

Guethol

Further information is now at hand regarding guethol, of which brief mention was made on page 165 of Vol. XI of the BULLETIN. According to Dr. de Buck (*Rev. de Thérap.*, LXIV, p. 677) it may be given in milk, in doses of from 5 to 7 drops thrice daily, or in the following form:

Guethol 4 gme. (1 fl. dr.)
Alcohol..... 30 gme. (10 fl. dr.)
Distilled Water..... 40 gme. (11 fl. dr.)
Syrup Codeine..... 30 gme. (6 fl. dr.)

Three teaspoonfuls thrice daily, before each meal.

The remedy greatly resembles guaiacol in its properties, with the exception that its analgesic power is much more marked. Painting with guethol in cases of neuritis or neuralgia is said to give excellent results, as is also the application of the following:

Guethol..... 5 gme.
Vaselin..... 30 gme.

Guethol may be injected hypodermically in the form of a 10-per-cent. glycerin-emulsion. The analgesic effect lasts from three to four hours. In a case of painful tuberculous cystitis accompanied by intense tenesmus, the intravesical injection of 5 cc. of the above emulsion caused a disappearance of the tenesmus in two weeks. F.

Diabetic Albuminuria

Dr. A. Robin (*Rev. de Thérap.*, 1897, No. 10) lays down a number of practical rules for the treatment of diabetic albuminuria. He maintains that the primary disease should first be treated, and in no case should more than 2 gme. (30 grn.) a day of antipyrine be given—if this drug be used—on account of its unfavorable action on the kidneys. If the albuminuria is due to faulty digestion, this should be remedied; if to a lack of minerals in the system, then milk, meat bouillon, or salines should be administered. If the albuminuria is phosphatic, as is most fre-

quently the case, arsenic should be given to diminish the phosphatic loss, the patient taking twice daily, half an hour before meals, a tablespoonful of the following mixture in a small glass of milk:

Sodium Arsenate.....0.03 gme. ($\frac{1}{2}$ grn.)
Potassium Iodide.....3 gme. (45 grn.)
Distilled Water.....180 gme. (6 fl. oz.)

Tonics are also indicated, for instance, the following:

Extract Cinchona.....0.1 gme. ($\frac{1}{2}$ grn.)
Quinine Sulphate.....0.1 gme. ($\frac{1}{2}$ grn.)
Extract Nux Vomica...0.02 gme. ($\frac{1}{2}$ grn.)

For one pill. One such at breakfast and at dinner.

After a fortnight these remedies should be discontinued, and glycerinophosphates administered as follows:

Calcium Glycerinophos...0.1 gme. ($\frac{1}{2}$ grn.)
Mag. Glycerinophos...0.1 gme. ($\frac{1}{2}$ grn.)
Extract Nux Vomica...0.02 gme. ($\frac{1}{2}$ grn.)

For one powder or wafer. One such at breakfast and at dinner.

After a fortnight this should be discontinued, and a mixture of the hypophosphites prescribed, each teaspoonful of which, taken before breakfast and before dinner, should contain:

Strych. Hypophos...0.0002 gme. ($\frac{1}{100}$ grn.)
Quinine Hypophos...0.02 gme. ($\frac{1}{2}$ grn.)
Mag. Hypophos...0.02 gme. ($\frac{1}{2}$ grn.)
Potassium Hypophos...0.03 gme. ($\frac{1}{2}$ grn.)
Calcium Hypophos...0.1 gme. ($\frac{1}{2}$ grn.)
Sodium Hypophos...0.06 gme. (1 grn.)
Iron Hypophos...0.03 gme. ($\frac{1}{2}$ grn.)

F.

Tincture Iodine in Phthysical Diarrhea

In the treatment of the diarrhea occurring in phthysical cases, Dr. E. de Rienzi (*Sem. méd.*, XVII, p. 214) has frequently obtained excellent results by the exhibition of tincture of iodine in one-drop doses with gum mixture. In conjunction, cleansing enemas of 200 gme. (7 fl. oz.) of water containing 0.5 gme. (8 grn.) of salicylic acid and a few drops of laudanum, were used. F.

Quinoral

A new compound has been prepared by a patented process from chloral and quinine, under the name of "Quinoral" (or "Chinoral"), by Karl Meyer, of Apolda. It is described (*Pharm. Ztg.*, XLII, p. 751) as an oily, viscid, neutral, very bitter liquid, miscible in all proportions with aqueous and spiritous liquids. It is said to be free from the irritating properties of quinine or of chloral, and not to affect the heart. It is credited with being an antiseptic of the highest order, and extolled as a substitute for the dangerous metallic poisons and carbolic acid. Bacteriological tests made with

corrosive sublimate and quinoral solution of equal strength showed that bacteria were more rapidly killed by the quinoral solution than by the corrosive-sublimate solution.

Quinoral is given internally in doses of from 0.05 to 1 gme. (8 to 15 grn.). In larger doses it is given as a hypnotic, particularly in delirium tremens. F.

Antineuralgic Liniment

Prof. Eulenburg is credited with the following (*Med. Week.*, V., p. 564):

Ichthyol 1 part
Mercurial Ointment..... 1 part
Chloroform..... 6 parts
Spirit Camphor 6 parts

Externally. Shake the bottle well before using. Rub in over the affected part.

Pelvic Peritonitis With Peri-uterine Exudate

The following is taken from the *Med. News*:

Iodole 1½ dr.
Extract Liquorice... sufficient for 60 pills

One pill four times a day for four days; then gradually increase until 10 pills are taken daily.

It is stated that within five days there is a decrease of pain, fever, and abdominal tension, and the exudate is quickly absorbed.

Ichthyol in Gynecology

Excellent results have been obtained by Dr. Lorain (*Jour. de Méd.*, March, 1897) in gynecological practice from ichthyol dressings. These were in the form of tampons of cotton impregnated with a 5- to 10-per-cent. glycerin solution of ichthyol. Sometimes only one tampon was applied, sometimes five or six were placed in the vaginal cul-de-sac and on the neck of the uterus, and so close as to exercise some pressure on the pelvic organs, from which useful results always appear to have been had. The dressing was removed by the patient in about forty-eight hours, and renewed to or three times a week. During the intervals hot, antiseptic injections were prescribed to be made morning and evening. In certain cases, ichthyol was also given internally in doses of 0.1 gme. in pill form, before each meal. The results of the treatment are summed up by the writer as follows:

1. Ichthyol employed as vaginal dressings, and as inunctions on the abdominal walls, exerts an analgesic action that is manifest at times even from the first dressing, and which is more marked the longer the applications are continued. That the

glycerin bears little or no part in the effect is evident from the fact that in many cases where it was applied alone it was ineffectual, but alleviation was had as soon as the ichthyol was employed.

2. It exerts, besides, an antiphlogistic action, it being observed that in general, under the influence of ichthyol dressings, repeated for a variable length of time, the inflammatory lesions of the adnexa, peritoneum, and pelvic cellular tissue exhibited a marked tendency to resolution. The adnexa diminished in volume and regained their mobility, at the same time becoming less sensitive to pressure. The pelvic exudations underwent resorption, and the vaginal culs-de-sac regained by degrees their normal flexibility. In recent cases of light or medium intensity, a cure was almost always had in from three to four months. In long-standing salpingo-ovaritis, complicated with sclerotic periadnexa, intra-vaginal compression, combined with massage, gave excellent results.

3. Among the patients observed, many were afflicted with inflammatory lesions of the neck of the uterus, and a few even exhibited symptoms of vaginitis, that were all greatly ameliorated by the application of ichthyol dressings.

4. Administered per os, ichthyol stimulates the digestive functions by its tonic action on the stomach, relieves arterial tension, and thus favors resorption of the pelvic exudations.

In résumé, the writer states that, from his observations, it results that ichthyol, thanks to its analgesic, antiphlogistic, resolvent, and antiseptic properties, is bound to be of special service in gynecology, when employed in the manner indicated, and in conjunction with other judiciously chosen therapeutic remedies. F.

Against Malaria in Children

Dr. A. Zuckermann uses the following (*Gaillard's Med. Jour.*):

Tincture Eucalyptus... 8 gme. (2½ fl. dr.)
Diluted Alcohol..... 8 gme. (2½ fl. dr.)
Quinine Hydrochlorate.... 2 gme. (30 grn.)
Quinoidine..... 2 gme. (30 grn.)

Diluted hydrochloric acid; to dissolve twenty to forty drops five times a day in sweetened water.

F.

Malakine as an Antirheumatic

Malakine, $C_{10}H_{15}O_2N$, a combination of para-phenetidin with salicylic acid, was exhibited by Drs. S. J. Korotkoff and P. S. Ussoff, of Moscow (*Therap. Woch.*). The observers report that in these cases the remedy acted with certainty and rapidity, the cure beginning on the fourth to sixth day.

The temperature decreased, and the pain in the joints disappeared very quickly. In regard to certainty and rapidity of operation, malakine was found to be not inferior to sodium salicylate, and to possess the advantages of not producing noises in the ears or deafness, perspiration, or dyspeptic symptoms.

The investigations of Dr. Gaudin (*Jour. de Méd. de Paris*) into the antipyretic and antirheumatic properties of malakine, show that the average daily dose of 6 gme. (90 grn.) may be increased up to 10 gme. (150 grn.) without any ill effects resulting. The remedy may be given in doses of 0.5 to 1 gme. (8 to 15 grn.) in water or dissolved in olive-oil. Children, too, are said to bear the remedy well. F.

Tuberculosis in Children

Dr. F. Schmey recommends this (*Pediatrics*):

Balsam Peru..... 5 gme. (75 grn.)
Cod-liver Oil..... 10 gme. (2½ fl. dr.)
Powdered Acacia. ... 5 gme. (75 grn.)
Distilled Water,
to make emulsion.... 80 gme. (2¾ fl. oz.)
Syrup Orange..... 20 gme. (½ fl. oz.)
Teaspoonful every two hours, after some nourishment.

F.

Lupus Treated with Koch's New Tuberculin

Malcolm Morris and Arthur Whitfield report six cases of lupus treated with Koch's tuberculin (*Brit. Med. Jour.*, 1897), and the effects are thus summarized: 1. A diminution of the surrounding halo of redness in those cases in which this had been present to a marked degree before the commencement of the treatment; in cases in which there were simply yellowish-brown nodules in a white scar, the injections produced no visible effect at this stage. 2. A slight depression in the center of the nodules, leading to wrinkling, and later to desquamation of the cuticle. 3. Steady healing of all ulcerated surfaces. 4. Slow subsidence of the previously permanent edema of the lips, ears, etc. G.

Anytin and Anytols

The researches carried on by Helmers since 1890 show (*Pharm. Centralh.*, XXXVIII, p. 716) that the two principal constituents of ichthyol are ichthyolsulphonic acid and an aromatic, oily, sulpho-compound. These two, it has been found, when combined, possess the property of rendering a third, difficultly soluble constituent of ichthyol soluble in water. This property is also extended toward many

ethereal oils, camphor, phenols, and other bodies. A 33-per-cent. solution of the two substances has been named "Anytin," and the solutions formed by its means have been introduced into commerce under the generic designation, "Anytols." The medicinal activity of the sulpho-acid and sulpho-compound has recently been the subject of study by Dr. Unna. The latter states that only the ichthyolsulphonic acid tans the epidermis, browning it and forming pelli-cles. The acid also has a powerful reducing action, being antiphlogistic, and depleting the tissues. F.

Tinea Circinata

Dr. Van Harlingen (*Dom. Med. Month.*) is the author of the following:

Creosote.....20 min. (1.25 gme.)
Oil Cade.....3 fl. dr. (12 gme.)
Sulphur.....3 dr. (12 gme.)
Potassium Bicarbonate.....1 dr. (4 gme.)
Lard.....1 oz. (30 gme.)

Externally.

Argon in the Blood

P. Regnard and T. Schloesing (*Compt. Rend.*, CXXIV, p. 302) state that they found 20.4 c.c. of nitrogen and argon, the latter constituting 0.419 c.c. of the mixture, dissolved in one liter of blood. They also state that an increase of the amount of nitrogen dissolved in the blood is accompanied by an increase of the amount of argon as well. F.

Antineuralgic Pill

Dr. D. E. Ruff (*Med. Record*) has had good results from the following combination:

Strychnine Sulphate....1 grn. (0.01 gme.)
Quinine Sulphate.....1 dr. (4 gme.)
Reduced Iron......45 grn. (3 gme.)
Extract Gentian.....30 grn. (2 gme.)

Make into 60 pills. One three times a day.

This pill is said to be specially good for facial and gastric neuralgias. If a marked malarial element is present in the case Dr. Ruff adds 5 grains (0.3 gme.) of arsenous acid to the above formula.

Enterorose

Enterorose is a new dietetic remedy specially recommended for use in gastro-intestinal catarrh (*Pharm. Centralh.*, XXXVIII, p. 728), because it is non-irritating, easily digested and assimilated, and it contains the alimentary constituents in the necessary relative proportions. In its preparation, vegetable albumin, diastase, and meat-extract are employed, and the albumin, fat, carbohydrates, and nutritive salts are present in the relative proportions of 18:11:59.5:3.8. Enterorose occurs as a white or faintly yellowish powder, reported to be easily miscible with water, and permanent. Good results have followed its use, particularly in diarrhea in children and adults, and in dysentery. It is given to adults in doses of 8 gme. (2 dr.), repeated in from one to three hours; to children, in half the dose mentioned. Where its employment is to be continued for any length of time, the preparation is best given in bouillon. F.

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Nervous Vomiting and Its Treatment

According to Dr. Meisl (*Therap. Woch.*, 1897, No. 38) nervous vomiting produced by disturbances of the nervous system, without external irritation or anatomic lesion, is a purely functional disorder. It occurs without any over-exertion, and has nothing to do with the quality and quantity of the ingested food. It varies in relation to the different kinds of diet, and is often absent when food difficult of digestion has been eaten, and may be present when only suitable nourishment has been taken. For the treatment the following is recommended:

Menthol.....0.06 gme. (1 grn.)
Sodium Bicarbonate...6.5 gme. (100 grn.)

Dispense in ten capsules. One capsule three times a day.

In severe cases it may be necessary to employ suppositories each containing 0.02 gme. (1-3 grn.) of belladonna extract and 0.03 gme. ($\frac{1}{2}$ grn.) of codeine. Cerium oxalate, the bismuth salts, and alkalies in large doses are also recommended. In the painful form of nervous vomiting, papavotin is said to render excellent service, given with sodium bicarbonate. In some cases painting the pharynx with a 10-per-cent. solution of cocaine hydrochlorate effects a cure. General treatment directed toward strengthening the system is also of importance.

Ichthyol in Dentistry

Dr. H. Floris (*Poulson's Bericht*, 1897, No. 14) reports having used ichthyol with very excellent results in alveolar pyorrhea, and in painful receded gums. In the former case, the undiluted ichthyol is employed for swabbing the alveolar cavities by means of a pledget of cotton fastened to a gold needle. They are besides syringed twice or thrice a week with a warm 50-per-cent. solution of ichthyol, the mouth being also daily rinsed twice with a solution of from 10 to 15 drops of ichthyol to a half-glass of warm water, and after previous massage. In receded, painful gums, and in cases where the teeth are sensitive to change of temperature, touch, sweets, certain fruits, etc., the undiluted ichthyol is painted on the sensitive

part twice or thrice a week, with a camel's-hair pencil, with the result that in from two to three weeks permanent relief from pain is had. In this respect the preparation is greatly superior to the remedies usually employed, such as silver nitrate, for instance, since it exerts no caustic effect or causes discoloration.

The writer has also employed the remedy with remarkable results in hemorrhages following extractions, the most severe being rapidly checked by inserting a tampon of 25-per-cent. ichthyol-cotton into the cavity, and retaining it in place by the usual means.

F.

Ointment for Palmar Eczema

Dr. S. E. Hale, of New Orleans, recommends the use of the following ointment in palmar eczema:

Sozoiodole-sodium.....	2 dr.
Zinc Oxide.....	4 dr.
Vaseline.....	10 dr.

Apply twice daily.

F.

Captol

The name of "Captol" has been given by Dr. Eichhoff to a new antiseborrheic and medicinal cosmetic preparation. It is described as a condensation-product of tannin and chloral, free from the disagreeable by-effects of tannin and the irritative action of chloral.

F.

Prescription Incompatibility

Dr. Daclin calls attention (*Méd. mod.*) to the incompatibility of cocain hydrochlorate and cherry-laurel water. The cocain becomes precipitated in the form of a cyanide [cherry-laurel water, as is well known, contains hydrocyanic acid].

R.

Treatment of Abscesses by Injections of Borated Vaseline

Dr. R. Ortega, of Ciudad Porfiro Diaz, has obtained rapid cures in five cases of axillary abscess, one of diffused phlegmon of the forearm, one of phlegmonous furuncle of the wrist, and one of suppurating bubo. Only one injection of the following mixture was required in each case, and it was made directly into the purulent center (*Sem. méd.*, XVII, p. 218):

Borax.....	2 gme.
Antipyrine.....	2 gme.
Vaseline.....	60 gme.

The method of procedure is to cleanse the affected part first, then to puncture the abscess and evacuate the pus, and finally to make the injection by means of a small glass syringe, and in sufficient quantity to distend the pus-cavity. The orifice of the puncture

is then closed with the finger, and the tumor lightly malaxated so that the mixture comes into contact with the entire suppurating surface. A simple dressing of absorbent cotton held in place by a few turns of a roller bandage completes the operation. Recovery results as a rule in from three to four days. The injection is painful, but the pain disappears in a few minutes. It is proposed in the future to use simply borated vaselin, with antipyrine, to avoid the pain.

F.

Brief Notes

GASTROMYXIN is a preparation obtained by Gust. Herites, of Prague, from the mucous membranes of the stomachs of cattle, and which yields pepsin when introduced into the stomach. It is intended for use (*Pharm. Post*, XXX, p. 535) in all those complaints in which the appetite requires stimulation.

SANOSE is a new albumin preparation, and contains, according to Drs. Schreiber and Waldvogel (*Pharm. Ztg.*, XLII, p. 702), 80 per cent. of casein and 20 per cent. of albumose. It occurs as a white, odorless, tasteless powder, which readily yields an emulsion with water when stirred with the latter; and this constitutes an excellent means of administering the preparation. Sanose is intended to be used as a dietetic and tonic.

F.

Iodoform Internally in Phthisis

Dr. E. de Rienzi (*Wien. med. Presse*, XXXIX, p. 27) recommends the internal administration of iodoform in phthisis, and states that it causes a lessening of the cough, reduces the quality of the inflammatory secretion, and improves the general condition. He advises the iodoform to be given with tannin or naphthalin, as follows:

Iodoform.....	0.05 gme. ($\frac{3}{4}$ grn.)
Tannin.....	0.1 gme. (1 $\frac{1}{2}$ grn.)

For one powder. Dose—From 2 to 4 such powders daily.

Iodoform.....	0.05 gme. ($\frac{3}{4}$ grn.)
Naphthalin.....	0.05-0.1 gme. ($\frac{3}{4}$ -1 $\frac{1}{2}$ grn.)

For one powder. Dose—From 2 to 4 such powders daily.

The powders containing tannin are intended for cases in which there is a tendency toward diarrhea, while those containing the naphthalin are intended for constipated cases.

[The tannin in the above formula could be advantageously replaced by tannalbin, which has no action on the stomach, as has the former, but manifests its astringent action only on reaching the alkaline secretions of the intestines.—Ed.]

F.

REVIEWS

Vade Mecum of Ophthalmological Therapeutics. By Dr. Laudolt and Dr. Gygax. J. B. Lippincott Company, Publishers. Philadelphia: Price, cloth, \$1.00.

This pocket-handbook on the therapeutics of the eye fulfills its claim of "containing in a concise form the indispensable facts of special therapeutics." The arrangement of subjects alphabetically, by number, and printed in heavy black capitals, and the sub-numbering of these paragraphs by (a), (b), (c), etc., when special formulæ are given, so that they are referred to in the text by such number, make this little book a pre-eminently useful one. Purposely passing by pathology, diagnosis, and definition (in most cases), the book takes for granted the larger knowledge of a given subject which must be sought in lectures and treatises, and proceeds at once to name and particularize with helpful discrimination the therapeutic measures indicated in each of the long list of diseases legitimately included in this specialty. Reiteration is well avoided by using the paragraph numbers parenthetically in the text. The formulæ are abundant, accurate, and given in two systems, including the metric. Centigrade is always given its F. equivalent in parenthesis. We know of nothing like this book which it displaces or duplicates, and we augur for it a useful place.

The American Year-book of Medicine and Surgery.—Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery. Drawn from Journals, Monographs and Text-books of the Leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments by Twenty-seven Eminent American Specialists and Teachers Under the Editorial Charge of George M. Gould, M. D. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street, 1898. For sale by subscription. Cloth, \$6.50; half morocco, \$7.50.

As an epitome of the year 1897 in medicine and surgery, this volume is fully up to the claims of its editor and publishers. The knowledge to be gained from such a book as this is indeed equivalent to a post-graduate course, and with the advantage that the possessor is always able to recall at will the lessons it contains, a thing he cannot do with the lectures of a post-graduate school. The good word said for the Year-book in our 1897 review is equally applicable now. It is a work that is not alone of direct benefit to medical men who have it in their libraries, but it is one of the few productions that bring credit to the nation. Even conservative England, where for a long time it was thought that no good thing of a literary or purely scientific character could come out of the United States, is praising this work. The general summaries of the year as presented by those in charge of the various departments show keen thought and careful, honest study of the accumulated facts. Drs. Pepper and Stengel say that they are so fully satisfied with the value of the Vidal reaction that they would hesitate to diagnose typhoid fever without it. Serum-therapy gets favorable mention, and the etiology and symptomatology of the various diseases discussed get full and proper attention. In general surgery nothing so startling as in the preceding year, when the Roentgen ray was exciting so much interest, is chronicled. Catgut sterilization receives prominent attention, and the various methods of

sterilizing are discussed. Prof. Wight's method as given in the BULLETIN on page 433 of last volume was evidently overlooked by Drs. Keen and DeCosta, as no mention is made of it, although recommended by many surgeons who use it and prefer it to all others. We are pleased to note that a number of the departmental editors have made liberal reference to the AMERICAN MEDICO-SURGICAL BULLETIN as a source of their information. The editorial criticisms so freely scattered through the work make its contents exceedingly readable as well as good for reference. The unbiased judgments thus given on points of dispute or doubt are captivating to the reader and keep him from laying down the volume in doubt and dissatisfaction, as he might do if they were absent. We commend the book to our readers, and feel confident that those who procure it will feel no disappointment in it from any absence of care on the part of either publisher or editor, for both have done good, honest work upon it.

Die Hauptthatsachen der Chemie. Für das Bedürfnis des Mediziners, sowie als Zeitfaden für den Unterricht zusammengestellt von Erich Harnack, o. ö. Professor der Pharmakologie und medizinischen Chemie an der Universität Halle, Zweite, Neubearbeitete Auflage. Hamburg und Leipzig: Verlag von Leopold Voss. 1897.

The book under consideration, containing 156 pages, forms an excellent, though succinct review of theoretical and analytical—qualitative—chemistry. We consider the book especially useful for those who are familiar with the subject, but having become rusty, desire to recall to their memory the chief principles and facts of chemistry. It is also a good repetitorium for examinations. For a beginner the book is not the best that could be recommended, as in some places the explanations are too brief and succinct to be easily understood by one who had never studied the subject. We view with disfavor the way in which the formulæ of those compounds are written, in which the radicle is taken twice or three times. Lead nitrate, for instance, is written $Pb\ N_2\ O_4$; calcium phosphate, $Ca_3\ P_2\ O_8$, etc. The beginner is likely to become confused, he may think there are such radicles as $N_2\ O_4$, $P_2\ O_8$, which really do not exist; there are only NO_2 , PO_4 , etc., which may, of course, be multiplied any number of times.

The analytical part is very complete and satisfactory, and the nomenclature is, of course, up to date.

Rubalyat of Doc Siefers (Illustrated). By James Whitcomb Riley. Century Company, N. Y.

This charming poem-story, told in the author's own manner, portrays a character which the advances of civilization are fast supplanting, and by others less beautiful—the old country doctor.

Mr. Riley takes us into the life of the good man, to the bedside of the sick, with him on his lonely rides, on his outing trips, and reveals him in his social and home life, and all the while the simple, yet grand character of the man shines through as something real—something which is.

The book should be in the library of every one, and certainly of every physician.

In preparing the volume the publishers have spared no expense, and it comes to us artistically printed upon fine, heavy paper. There are twenty-four full-page and numerous smaller illustrations—reproductions of wash-drawings and pen-and-ink sketches by Mr. E. M. Relyea. The volume is tastily bound in illuminated buckram.

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HORATIO C. WOOD, M.D., LL.D., Editor
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EDITOR'S NOTES

San Francisco must have a good many lazy doctors if the Board of Health of that city gives a truthful report of their conduct. The board lately distributed a liberal supply of antitoxin among those of them who agreed to report results. No charge was made for it, the only condition exacted being that they sign an agreement to report its effect upon their patients. The board has now made it a rule not to give a fresh supply to those who have violated their written promise. It is too bad that there are so many men in our ranks that care so little for their promise as this seems to indicate. We hope that it was due to some misunderstanding rather than wilful neglect. The efforts of the board to get reliable evidence of the value of antitoxin in the treatment of diphtheria should receive the support of the profession and its hearty commendation.

The Medical Library Association of Denver, Col., is setting an example to the various medical associations of the country that is well worthy of imitation. Dr. Spivak is showing us what zeal in a good cause can quickly accomplish. The annual meeting of the Association was held at the Brown Palace Hotel on Jan. 17. The growth of their library is said to be something phenomenal considering the small number of

men who are at work building it up. Their periodicals number 152, of which only twenty-eight are subscribed to from the library funds, and 124 donated by members. We notice that Dr. E. R. Axtell has supplied them with the AMERICAN MEDICO-SURGICAL BULLETIN. A mistake, however, has been made in listing us in their Monthly as a monthly instead of a semi-monthly. We wish the association every success and hope that their example will become contagious throughout the United States.

The Department of Health of Cincinnati, O., recently passed a resolution making it obligatory for the physicians of that city to report all cases of persons sick or suspected of being sick of a contagious disease. Pulmonary tuberculosis is mentioned among the diseases thus to be reported. No provision has been made to pay the physicians for this service. The BULLETIN has repeatedly pointed out this injustice in Health Board laws, and we are glad to see that the *Journal of the American Medical Association* has a word to say in the same direction in an editorial in its issue of Feb. 12. As soon as medical men are awake to the imposition of forcing them to do public service of this kind for nothing there will be some chance of having it corrected and getting themselves better respected. Steadily the dignity of the profession is becoming destroyed, and the submissiveness of its members to being imposed upon is the cause. One can hardly pick up a newspaper without seeing some fresh indignity heaped upon us. The latest and most galling one is the compelling of medical men to pay a tax for the privilege of practising their profession. Virtually this amounts to a fine upon us, as if we were criminals that had to be curbed in wrong-doing.

On Feb. 4 Representative Parker, of Cleveland, presented a bill to the Ohio Legislature that illustrates well the class of principles that are said to be true in theory but false in practice. He proposes to have candidates for marriage examined by three duly appointed physicians before a license is granted. No person with a hereditary taint or disease shall be permitted to marry. He expects by such a system of artificial selection to weed out the unfit and increase the strong, sound, and healthy. No one that is a dipsomaniac, insane, or suffering from any hereditary disease will be allowed to marry. He does not say how he is going to overcome the inherent prejudice that exists in the community against such a law, or how he will be able to enforce it. He fails to see that such a law would be apt to

defeat its own purpose and increase rather than diminish the number of faulty births, besides encouraging immorality to an extreme extent. If this bill should become a law it would make very many openings for medical men who in the present state of dispensary competition badly need the fees of one thousand dollars each that it provides for. It is a pity that a safeguard similar to that proposed by Mr. Parker could not be carried out, but to us the case looks hopeless.

The Christian Science delusion plays queer pranks with the minds of its votaries. Nothing in a mad-house is more insane than some of the delusive notions they encourage. If rationality consists in having the thoughts of the individual correspond perfectly with the physical conditions of the environment, then these people have certainly reached the acme of irrationality. In a recent trial in Kansas City of Mrs. Baird, a healer, the mother of a child that had died of diphtheria was asked by the judge if she had called in Mrs. Baird to treat her daughter. The answer was: "She was asked to demonstrate the principles of Christian Science." Then followed the following conversation between the judge and the mother:

"What do you mean by demonstrating the principles of Christian Science?"

"I mean that she imparted to my daughter an understanding of the truths of Christian Science."

"How did she do it?"

"Mentally and audibly."

"What do you mean by mentally and audibly?"

"Mrs. Baird repeated certain words and read from Christian Science text-books on the unreality of disease and the allness of God."

"Did you call Mrs. Baird in to restore your daughter to health?"

"We called her in to instruct the child in the spirit. We put out thoughts of disease by imparting truth. We do not recognize any disease. What is called disease is error. We drive out error with truth."

"Is it Mrs. Baird's business to cure disease?"

"She demonstrates."

"Suppose she demonstrates and the person dies. What then?"

"In that case it would be the fault of the demonstration."

"Do you know of Mrs. Baird treating other cases?"

"Yes, if you mean demonstrating in other cases."

"Does she receive fees for her services?"

"Yes."

"Suppose a person had an arm broken. What would you say to that?"

"That would be an illusion?"

"Suppose the arm were cut off. What then? Would that be an illusion, too?"

"Yes."

"Your daughter is dead. Is that an illusion?"

"Yes."

One-third of all cases of malignant diseases in the female occur in the uterus.

PUBLISHERS' DEPARTMENT

ANTITOXIN

Mulford's Extra Potent Antitoxin is now supplied of a strength of 1000 antitoxic units per cubic centimeter of serum. This constitutes the most concentrated product ever supplied in commercial quantities. It is supplied only in vials of respectively 1000 and 2000 units.

IMPERIAL GRANUM

The following letter was received by the Imperial Granum Company, of New Haven, Conn:

December 29, 1897.

Dear Sirs—I have raised my baby on Imperial Granum, and no healthier child can be found in the city. She is three years old, weighs thirty-six pounds, and still has two meals a day consisting almost wholly of Imperial Granum. Her last meal at night is Imperial Granum only. It is soothing, nourishing, and satisfying, and gives good sleep and no nightmare, which children so frequently have from improper evening feeding. I always speak enthusiastically for the Imperial Granum, for I know of no food that is as good for babies and children.

—, M. D.

Literature and samples for clinical test supplied only to physicians and trained nurses. Sent free, charges prepaid, on request.

THE MULTI-NEBULAR VAPORIZER

This instrument, designed for treating all diseases of the respiratory organs and the middle ear, is said to embody all the latest ideas in respiratory therapeutics, and to have many features which make it a most complete and practical apparatus for office practice. It is manufactured by the Globe Manufacturing Company, of Battle Creek, Mich., who will furnish full information as to use, literature, testimonials, etc., on request by any physician.

THE BICYCLE SADDLE

Injury of the prostate gland and the prostatic urethra from riding a faulty saddle is one of the most deplorable results that can follow the fascinating practice of cycling; likewise an improper saddle, by permitting pressure and irritation of the external genitals, sometimes develops the habit of masturbation in girls. With these elements of danger eliminated, it is by far the most popular and beneficial form of outdoor exercise we are acquainted with.

The physician who thoroughly masters the saddle question, both from a scientific and practical standpoint, and advises his patients and patrons accordingly, may render them a very great service.

GÁROFEN

Dr. Ben Brodnax, in the *Medical Summary*, cites a number of cases treated with Gárofen, and concludes that it is the hypnotic which will take the place of morphine, acetanilid and its many compounds and mixtures. He says that it answers a splendid purpose where you desire to allay pain without any sweat, or any of the effects of heart-action with which the coal-tar preparations are charged. As a quieter of pain, pure and simple, he has found nothing superior to it outside of a hypodermic of morphine. He dreads the use of

morphine among his clientele, and has for several years tried everything that would in any way supplant it. This preparation, he believes, comes as near to it as any he has used. The Phénique Chemical Co., of St. Louis, Mo., will send, free of charge, sample, literature, and reports on Gárofen. It contains no coal-tar products nor opium or its alkaloids in any form.

PETROLEUM EMULSION

Dr. H. Rainsford, of Kilburn, England, writes to the *Medical Times and Hospital Gazette*, of London, respecting a case in which he received most remarkable results with Angier's Petroleum Emulsion in the treatment of acute tuberculosis of the lungs in a boy. After detailing the case and the remarkable results obtained with this Emulsion, the doctor concludes by asking the profession of England for results of their experience with this remedy, which to him was comparatively new, but with the merits of which he was most strongly impressed.

SPECIAL OFFER

The King-Jones Co., Toronto, Canada, is now offering for a short time, to physicians of the United States and Canada, its Spruce-bark Bed-clothing at one-half the regular price, and free of duty.

This special inducement is made that physicians may ascertain the value of Spruce-bark Bed-clothing as a curative, preventive, and protective agent in nervous and bronchial troubles. The clothing is made of the inner bark of the Canadian balsam spruce-tree stripped early in the Spring when the sap is rising.

For further information see advertisement on another page in this issue. The King-Jones Co. solicits correspondence from physicians.

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co. and Leased, Operated and Independent Lines.

The office of general passenger and ticket agent of this company makes the following announcement:

"CHUTMUCK SPECIAL."

AMERICAN MEDICAL ASSOCIATION, DENVER, COL.,
JUNE, 1898.

For the meeting of the American Medical Association, to be held at Denver, Col., in June, 1898, we take pleasure in announcing that the Missouri Pacific Railway has arranged to run a special through train from St. Louis to Denver, to be known as the "Chutmuck Special," making the trip via Kansas City, Pueblo and Colorado Springs.

This will be one of the handsomest trains ever run in the West, consisting of Compartment Sleeping Cars, Dining Car, Buffet Car, etc., affording special accommodations for the wives and families of yourself and friends. Please remember this in making your arrangements.

Due announcement as to dates, schedule, etc., will be made later on.

H. C. TOWNSEND,

General Passenger and Ticket Agent.

B. H. PAYNE,

Ass't Gen'l Passenger and Ticket Agent.

ASEPTOLIN-EDSON

Aseptolin is a solution containing about 3% of absolute phenol and 0.01% of pilocarpin-phenyl-hydroxide, $C_{11}H_{16}N_2O_2$. O. H. C. H₅.

It is a fluid designed mainly for hypodermatic

use, but may also be used per rectum. When properly injected into the subcutaneous tissues little or no irritation follows, and there is consequently no danger of abscess.

Whenever it is sought to reinforce and increase the natural antiseptic power of the blood, Aseptolin is indicated.

It is not claimed that Aseptolin is a "sure cure" for phthisis or any other disease, but it is claimed that if the remedy is used with care and skill the practitioner will be rewarded by obtaining a larger percentage of recoveries [55% to 60%] than by any other known treatment.

Reports from physicians, who have tested this preparation, will be found on page—.

A PAPER-CUTTER AND BOOK-MARK COMBINED

A handsome metal paper-cutter and book-mark combined will be sent free of postage under sealed cover on receipt of ten cents in silver or stamps. It is the latest, best, and most serviceable adjunct of every library and office. Address Geo. H. Heafford, 410 Old Colony Building, Chicago, Ill.

ELECTRIC BATTERIES

The advertisement of The Electro-Medical Mfg. Co., Chicago, Ill., on page xii of this issue, shows extremely low prices on all their manufactures.

NEWS

The semi-annual meeting of the Missouri Valley Medical Association will be held at Red Oak, Ia., on Thursday, March 17, 1898.

The East St. Louis Medical Association was lately informed by the city authorities that all doctors must hereafter pay a tax of \$8.33 per year for the privilege of practicing there.

A Chicago Chinaman named Harry Dolt is a student of medicine in Rush Medical College. He expects to become soon the first of his race to graduate in regular practice in this country.

The St. Louis *Republic* claims that that city has the largest and most completely fitted up dissecting-room in the world. It has also the largest amount of dissecting material and can show cadavers by the score. The *Republic* says that the students there are "in clover."

The Buffalo Health Department is in a flurry over its discovery that the bodies of paupers have for some time been buried several together in a single grave, and the upper ones so near the surface that the coffins are left bare or but slightly covered. The cemetery is declared to be a disgrace to Buffalo.

A bill has been presented to the Legislature of New York requiring the State to do away with contagious-disease hospitals and substitute in their stead floating hospitals. It is proposed to utilize old warships for this purpose and keep them where they can do no harm by scattering contagion.

The Loomis Sanitarium for Consumptives has started a training-school for nurses in which special attention will be paid to instruction in the care of tuberculosis. Such nurses, they think, can be used to advantage at health-resorts and as

traveling companions for young people with incipient tuberculosis.

Dr. S. S. Todd, one of the oldest and most respected physicians of Kansas City, has come out boldly in opposition to the code of ethics, and declares that the restrictions against advertising by doctors should be removed. The majority of the members of the Jackson County Medical Society disagrees with him.

The Mayor of Buffalo has forbidden the sale of spectacles by street vendors on the ground that they are likely to damage the eyes of purchasers, since no test of their adaptation to the wants of the wearer is made. Dr. B. J. Cobleigh, of Wilkesbarre, Pa., writes to his local paper that the Mayor of that place should imitate the Mayor of Buffalo.

Detroit, Michigan, is suffering from too much dispensary. It is reported that rich people of that city put on old clothes and go to these places for free treatment. A reporter of the *Detroit Journal* was told by a prominent medical man that "there are 700 or 800 doctors in the city, and about two-thirds of them are chiefly engaged in putting up a front."

A Paducah, Ky., patient lately sued his doctor for \$10,000 damages because he got burnt by X-rays in the effort to locate a bullet in his head. The county society came to the aid of the doctor and he won his case, although he acknowledged that the burn was due to the effort to locate the bullet. He denied, however, that either carelessness or avoidable ignorance had anything to do with it.

Dr. R. S. Woodson, of the U. S. Army, Dr. P. E. Archinard, State Bacteriologist of Louisiana, and Prof. J. J. Archinard, of Tulane University, have been studying yellow-fever cases in New Orleans. They claim, according to the *Birmingham, Ala., Herald*, to have confirmed Sanarelli's work and to have discovered that yellow fever can be diagnosed by Widal's test as perfectly as typhoid fever can.

Mrs. Jennie D. Hollingsworth, aged 65 years, of Oklahoma, sent for a doctor in a hurry a few weeks ago. She lives on a ranch fourteen miles from Perry, and the first doctor found thought that the messenger was trying to fool him into a long, useless journey when he learned that he was wanted as an obstetrician. He, however, went, and came back reporting that she had given birth to a lusty girl baby.

In discussing the question of the hygienic management of dairies at the late meeting of the Medical Society of the State of New York, Dr. E. F. Brush said: "Mrs. O'Leary kept a cow in Chicago; the cow kicked over a lighted lantern, and all the world knows the damage that was caused. But how many cows there are, all over the land, causing destruction to life, and none of the afflicted even knows who keeps the cow or that she was the cause."

The New York Post-Graduate Medical School is in commotion over Dr. Charles B. Kelsey, one of its directors and secretary of the board. He lately made some very serious charges against Dr. D. B. St. John Roosa, president of the board, concerning the reports of charitable work that had been presented in order to get a large appropriation. As a sequel to this, Dr. Kelsey has been dismissed from the faculty and the chair of surgery declared vacant.

The *Boston Globe* has found a Hub professor who claims to have discovered the secret of sex

and how to produce boys at will, twenty-five years ago, but who, after writing a book on the subject, refused to publish it for fear of the great harm he believed it would do. He still clings to his secret and would not impart it to the reporter, but said he felt bad that the honor should go to a foreigner when an American, and a Bostonian at that, was the real discoverer.

A Joint-committee Dispensary bill has been prepared that represents the sentiments of all the principal medical societies of Greater New York and of the New York State Medical Association. Copies of the new bill have been sent to every legally constituted medical society in the State of New York with a request that the subject be brought before the members for their endorsement. These endorsements are to be forwarded to the Senators and Assemblymen of the various districts.

San Francisco doctors who have no faith in bacteriological diagnoses in diphtheria are getting themselves and the Health Board into trouble by refusing to comply with an ordinance that asks them to send a swab that has been used in the throats of suspected cases to the Board of Health. In the trial of Dr. Buckley for violating the ordinance he declared that he would rather go to jail than insert a swab into the throat of a diphtheric patient. He said that he had "not much respect for microscopics."

Mrs. Amanda J. Baird, Christian-Science healer, of Kansas City, Mo., was lately fined \$50 and costs by the police court of that city for causing a child to die of diphtheria without medical attendance. On appeal to the criminal court the decision of the police court was sustained, and the judge said that if he had had the power he would have raised it to \$1,000. The *Kansas City Times* says that the lady, and her friends in court, smiled at the judge while he was talking seriously to them, and seemed to pity him for his ignorance when he affirmed the verdict of the police court.

The Medical Society of the State of New York has a bill before the Legislature for the control of experts. It provides that upon a trial, whenever it is made to appear to the Court that the trial of issues will probably require the introduction of medical expert testimony, the Court may appoint such number of experts as it shall deem proper. These experts shall be skilled practitioners in this State, but in special cases outside experts may be employed. The expense of these experts shall be paid by the county in any amount, not less than \$10 nor more than \$100 a day, that the Court may prescribe. Either party to the trial can summon their own experts when they wish to do so.

Maryland has a new antivivisection society that has been writing up tales of woe against Johns Hopkins University. The students of the university paid their compliments to the sensational tales of the "Hysteries" in a *News Letter* editorial which, among other things, said: "Long life to the Antivivisection Society of Maryland! And may their tender hearts never become hard, nor their trustful minds prone to doubt the passing rumor. How charming is their simple faith! How spontaneous and intense their sympathy for every form of woe! But we fear their overflowing hearts have altogether swamped their other faculties. The charges of wanton cruelty they bring against the Johns Hopkins Medical School are so utterly absurd that they boomerang themselves to death."

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EDITORIAL

THE DRIFT OF THE DRUG TRADE

ONE of the most remarkable movements of modern times is the extraordinary changes which have taken place in the last twenty years in the business of manufacturing and selling drugs; an evidence of which lies before us in the Fifteenth Annual Report of the Proprietary Association of America, where we find, going hand in hand—sworn brothers in commercial knight-hood—most reputable drug-firms, the purveyors of "Real Burt's Beer," and the benefactors of the race who give to a suffering world Cough Killers and Hair Vigor, Pain Balms and Catarrh Cures, Galvanic Horse Salves, Canker Cures, Family Pills, Toilet Soaps, Electric Oils and Vermifuges, Corn Salves and Bitters, Health Pills, Spavin Cures and Toilet Waters—the great drug-princes cheek by jowl with the inventors, manufacturers, and dealers of remedies and nostrums by which the sick are made well and the well are made sick; through which the fat may be made thin and the thin may be made fat; nostrums in which may be found the cure of every ill from which mankind suffers save only total depravity and poverty. *O tempora! O mores!* What a pudding-stone! pebbles of every kind agglomerated by the magical cement of the so-

called "rebate plan," by which the seller of the proprietary remedy is required to sign a definite bond or agreement with the proprietor that he will not sell the remedy below a fixed price to the suffering public, though he himself is allowed to buy of the manufacturer at a discount, while the proprietor in turn agrees to protect his customers by refusing to sell to any one who will not sign such a contract.

Twenty years since there were in the city of Philadelphia about thirty wholesale drug-stores; to-day we are informed there are but six, not including those who sell medicines not to the drug-trade but to country stores. More than this, according to a member of a successful firm, most of these wholesale drug-stores are kept alive by their own specialties, a purely distributing house being almost unknown; and three-fourths of the business is further said to be the selling, not of standard drugs but of proprietary articles.

If the business changes which we have noted consisted simply of the lessened sale of drugs, and showed that the world was taking less medicine than twenty years ago, there might be reason for congratulation and hope of progress, but the changes which have taken place would seem to be not simply a diminished output of medicine, but the substitution for the true and known of the untrue and unknown. Surely there is more hope for a nation that takes quinine than for

one that lives on Vermin Killer or Health Pills.

Facts and considerations such as those just given have led us into some little inquiry concerning the proprietary and patent-medicine business, and to our surprise we have found that so far as can be made out, even when viewed purely from a business point of view, with complete "intellectual detachment" from any moral atmosphere, the business is hardly as brilliant as it seems. From the best information we can gather it appears to be a speculative rather than a legitimate calling; a speculative calling which does not yield on the average any larger percentage for the investment than do the more ordinary occupations of life, but which, like a huge lottery, gives great but barren promises to the many, and to the few great money prizes which dazzle the eyes of the multitude. It is said that not more than one per cent. of those who enter the patent-medicine business really make it a large success. Careful inquiry among those who are thoroughly familiar with the patent-medicine business shows that in this country within the last twenty years not more than fifty persons have succeeded in making fortunes out of it; rarely have these fortunes exceeded one hundred thousand dollars, and in not more than perhaps half a dozen cases have they reached a million of dollars. The profits of the business are enormous; the amount of business which has been done gigantic; where then have the profits gone? Into the newspapers and magazines, lay and medical! Thousands of persons have been ruined by advertising beyond their means, and not having sufficient capital to meet the obligations they had incurred, have passed into bankruptcy. The chief profits on patent medicines have been poured into the exchequers of the newspapers, magazines, and advertising agents. Put an end to this stream of gold and

a considerable proportion of the newspapers of the United States would cease to flourish and to live; a consummation most devoutly to be prayed for, yet but little to be hoped for.

Every business and every profession seems to have in these later times a general business or professional conscience, which controls its devotees, so that often the man whose private conscience is most sensitive and without guile is governed in his daily transactions by the business or professional conscience of his class, which may be anything but guileless; there seem to be few newspapers in the United States that will not admit to their columns such an advertisement as, keeping within the law, placards widely where those who wish may find: "—— Pills. Ladies who are pregnant are warned not to use these pills, as they may do them grave injury. At other times they can be taken without harm." It is a redeeming fact that most of these abortifacient medicines for the relief of suffering humanity are in fact harmless, so that their proprietors are guilty of no greater crime than lying, and their newspaper friends of no greater offence than that of distributing lies; misdemeanors which sit most lightly upon the shoulders of the professional consciences concerned.

Unfortunately it is not only the secular but also the religious press of the nation that rests so heavily for its support upon a foundation of deceit and quackery. Even the medical profession itself, and those who purvey for it—namely, the medical journals, in the United States, are not in this matter void of offence. When a new organic compound is discovered which has the power of relieving disease or symptoms not so well to be reached by other means, the doctor must use the drug whether its discoverer or its manufacturer receives or not through the operation of the patent laws an undue

profit; but in America the profession does largely more than this. It is said by competent authority that a very large proportion of the most successful of the secret proprietary nostrums, so-called patent medicines, pills, powders, or liquids, whose composition is mysterious and unknown, depend for their success upon the profession itself. Is there no hope that the growth of the American profession in its average knowledge and culture, under the force of legal control of its entrance-doors, will finally bring a day in which the average doctor will be able to write his own prescriptions and not be the natural prey of the smooth commercial traveller, who, with equal assiduity, serves him with lies and samples.

H. C. W.

HERBERT SPENCER'S PROXIMATE DEFINITION OF LIFE

A LITTLE more than thirty years ago a fierce war was being waged among biologists regarding the origin of life. Pasteur's wonderful researches were then creating the most intense excitement, and the theory of spontaneous generation, though still championed by a few very able men, was receiving its death-blow in the development of the science of bacteriology. At that time biological literature was teeming with reports of experiments with infusions of hay and stale vegetables, in which one side claimed to find proof that life arose *de novo* therein, while the other denied such a conclusion as unfounded. The last refuge of the believer in spontaneous generation was taken away when it was shown that the resting spores present in their infusions were not destroyed by the treatment to which they had submitted their material.

An exceedingly remarkable feature of this warfare was the attitude assumed by evolutionists. Naturally, one would have been led to infer that they would have cham-

pioned spontaneous generation, but the fact is that they were the strongest upholders of Pasteur and Tyndall in the fray. About this time Mr. Spencer's *Principles of Biology* was published, in which his now celebrated definition of life was given; and a few years later Lord Kelvin, who was then known as Sir William Thompson, suggested to the evolutionists a way out of the difficulty into which the development of bacteriology had apparently precipitated them. He pointed out as a possible solution of the matter the carrying of the spores or micro-organisms to this planet from the wreckage of other worlds, where they had developed. Just as remote islands in the great oceans have been tenanted by plant and animal forms from the nearest continents, so our solar system, he thought, may have been sown with the seeds of life from some remote system or galaxy. The objection first made to this suggestion was that if these germs came clinging to meteors they would be burnt upon reaching our atmosphere. This, of course, was easily answered by showing that, being loose, they would be swept off, and their slow descent would protect them. Then the objection was made that the intense cold of interstellar space would make life in every form as we know it impossible. This objection settled for the time being in the minds of a great many Lord Kelvin's theory, and put it to sleep for more than a quarter of a century.

Spencer, as the representative of the evolutionists, had defined life as "the continuous adjustment of internal relations to external relations." The spores of micro-organisms, in passing through interstellar space, must necessarily have been subject to the absolute zero of temperature, where adjustments of internal relations to external relations must have ceased. Mr. Spencer never claimed more than proximate correctness for his definition, and emphatically

declared that "It may turn out that to find a formula which will bear every test is impossible," and again, "We can scarcely ever avoid including more (in such definitions) than we intended, or leaving out something that should be taken in." He had formerly defined life as "the co-ordination of actions," but was dissatisfied therewith. He analyzed and criticised the definitions given by Richerand, De Blainville, Schelling and Lewes, showing that they were defective, both through embracing more than and less than the facts of life as known to us. His celebrated and finally approved definition, he says, is "reduced to its most abstract shape, and *perhaps* its best shape."

Are seeds so constructed that their protoplasm is continuously adjusting itself to their environment, and if not are they dead? If seeds are dead, then life must somehow arise *de novo* from them. It is usually held that seeds are alive when capable of development, and dead when that power has disappeared from them. Ten years after Lord Kelvin made the suggestion referred to, Wartmann tested the power of enduring cold possessed by seeds, using the lowest temperature that man was then capable of producing (166° F. below zero), and he found that it had no particularly marked effect on their power of germinating. Since then other experiments have been made at still lower temperatures, the last being reported by Horace T. Brown and F. Escombe, in the Dec. 9, 1897, issue of *Nature*. The authors succeeded in keeping grain, lily-seeds, peas, and other seeds of highly organized plants for over one hundred hours at temperatures ranging from 297° to 313° F. below zero, and after slowly thawing them out have caused them to sprout, thus demonstrating that their power of germination was unimpaired.

These results have reawakened interest in Lord Kelvin's speculation and apparently

created a necessity for a reconsideration of Mr. Spencer's definition of life. They have shown that interstellar conditions are not likely to interfere with the vital power of minute, dried spores. Since the report of these results speculation has been rife among medical editors regarding the probable fate of Mr. Spencer's definition under this new strain. The editor of the *Journal of the American Medical Association* on Feb. 12 suggested that we may have to go back to "Bichat's circular definition, that life is the sum of the influences, whatever they may be, that resist death." This definition, however, is, as the editor himself suggests, but "an expression of our ignorance of the real nature of vitality." Mr. Spencer's is vastly more lucid, for it tells us something, while Bichat's tells us nothing and is a complete begging of the question, in that it places one mystery—life—in opposition to another mystery—death. We know that Spencer's definition, as far as it goes, is lucid and unequivocal. Every act of metabolism, every effort to escape danger, every acquisition of knowledge, everything done by every form of plant and animal from microbe to man is an act of adjustment of internal to external relations. As Spencer has also pointed out, complete, perfect ability to adjust internal to external conditions would be complete perfect life. A being capable of such adjustment could never die. What then is lacking in his definition causing it to fail to cover the fact brought out by these experiments of Brown and Escombe? It lacks the essentials of a true definition in that it tells only what life does. It is as if Newton had defined gravity as a variance inverse to the square of distance and direct as to the mass. As far as such a definition goes, it is all right, but it fails to say what varies inversely as the square of the distance and directly as the mass. When we say gravity is *a force* that

varies inversely as the square of the distance and directly as the mass, then we can clearly grasp its application.

If now we take Spencer's definition of life, and instead of giving it as "the continuous adjustment of internal relations to external relations" we say that life is the *power* or *ability* to continuously adjust internal to external relations, then we have made it cover the new facts without in the least detracting from its comprehensiveness in other directions. The seed possesses this power or ability as well as the flowering plant or the full-grown man, but is not exerting it. The act of an adjustment is not life, but the power behind the act by which it is accomplished. That power is present wherever life is, and absent where life is not. We can never hope to know what that power is in itself any more than we can hope to know what matter is in itself. We know matter only by what it does in affecting our senses of color, taste, resistance, etc. We know life by what it does in its perfectly wonderful powers of adjustment. A definition of matter is a definition of what it does plus the statement that it is a something with these powers. A definition of life can never be any more than this, and should certainly be as much. The power or form of energy known as life possesses, however, some qualities that Mr. Spencer's definition, even when thus modified, does not yet include. It differs wholly from heat, gravity, light, electricity, and all other known forces in its self-perpetuation in continuous cycles as represented in succeeding generations. There is nothing like heredity or pro-creation in any other known form of power. It stands as a monarch over mere mechanical forces of all kinds. Its psychical manifestations in the higher forms are wholly unlike anything in mechanics—so much so, indeed, that any co-relation between them is utterly unthinkable.

R. G. E.

AMONG THE EDITORS

THE OVERCROWDING OF THE MEDICAL PROFESSION

The overcrowding of the medical profession is a matter which should be taken into serious consideration by those intending to enter it. In the last ten years the number of medical practitioners increased by over 20 per cent., while the population of the United Kingdom increased only by 7 per cent. in the ten years 1881 to 1891. The average earnings of each must therefore tend to be smaller than they were. This reduction of the average earnings is aggravated, it is said, by several abuses which should be remedied. Dr. Garrett Horder enumerates in the *Standard*—(1) The enormous growth of the out-patient departments; (2) the increase of patent medicines; (3) the liberty allowed to quacks; and (4) the extensive prescribing by chemists. The first will probably not increase much in the future. The large centers are by this time well provided, and the funds available for charity are not even now sufficient, so that it is not likely that many fresh hospitals will arise. The out-patient department of each may be expected rather to diminish as supervision is more fully adopted. But whatever measures be taken it is certain that the increase in the sum of medical earnings from the improvement will be comparatively small. In the sale of patent medicines there will quite as certainly be no decrease. No public will ever limit these save so as to render them free from danger to itself. The quacks and the chemists will be treated on the same lines. Where the public can be convinced that legislation is required for their own benefit they will approve it, but they will certainly do nothing simply to bring about medical protection. We do not therefore believe that the medical-wage fund can be much increased; nor do we believe that the competition which at present exists can be much lessened. This means, and must mean, failure in a certain number of cases, and since not only numbers rising, but also our general standard, it is perfectly true that a

started practice in 1877 will probably have succeeded better than one exactly like him who starts to-day. Success not only requires better training now than then, but also means a smaller income than twenty years ago.—*Brit. Med. Jour.*

THE IMPORTANCE OF A GENERAL KNOWLEDGE OF BACTERIOLOGY

There are 331 described species of bacteria which are useful, or at least harmless, and only 158 species which are known to produce disease, and comparatively few of these affect the human family (Sternberg). And, moreover, since the conditions for existence of the disease-producing germs are not abundantly supplied, they have, on the whole, a rather hard life-struggle, and it is not wonderful that when the opportunity presents they improve it to the utmost.

It is the harmful germ with which we are most concerned. The useful germ we accept, like air and sunlight, as a matter of course. The harmful germs, after evading every effort to discover them for centuries, are rapidly being isolated, studied, and the influences which are inimical to their continued existence established. It was found that certain diseases, of which typhus is a type, depended for their propagation on the presence of filth. Measures were taken to remove the filth, and typhus disappeared. It is known that typhoid fever, malaria, cholera, and certain diarrheal affections are produced by the presence of germs in drinking-water, and that if such water is boiled these diseases will be prevented. It is known that the sputum of a tuberculous patient, when allowed to dry, may infect others, and that if the sputum is burned the major danger is avoided. It is known that airborne diseases are, as a rule, carried but a short distance, and that if the patient suffering from them be isolated, and if all discharges and articles of clothing, etc., with which the patient has been in contact are disinfected, the danger of others contracting the disease is comparatively slight. It is known that certain diseases are prevented or modified by vaccination or inoculation; that this acquired immunity is produced by a well-understood scientific principle, which is being repeatedly proven. It is known

that for pus-microbes, as well as others, there is nothing so conducive to their growth as heat and moisture, and that an old-fashioned poultice supplies these conditions most admirably, and that in the discarding of this dangerous agent for the treatment of open wounds, whether infected or not, and in purulent affections generally, much suffering and perhaps some lives have been saved..

These precepts are thoroughly practical, and even a superficial knowledge of the principles of bacteriology will convince the public of their importance, and the necessity of better measures of quarantine; of the enactment and enforcement of laws in regard to isolation and vaccination; of disinfection; of general sanitary cleanliness, including pure food, pure milk, pure water-supply, and pure air; matters in which every individual is vitally interested. The more thoroughly bacteria and their effects are understood, the less we will hear of the scoffer, the anti-vaccination crank, and the mob which resists the health officer in the performance of his duty.

The public is beginning to see that the present practice of medicine is founded on science, and it is anxious to know more of it. It is remarkable what an interest people are taking in this scientific basis of medicine. Whether due to the training in science and physiology now common in our public schools or to some other reason would be difficult to decide, but certain it is that there is a wholesome desire for information which the physician should be the last to withhold. He may communicate the fact to his patients that it is unwise to poultice a boil; that it is necessary to disinfect polluted clothing and diarrheal discharges; that it is desirable to boil suspicious water, etc. Let him also explain to them why these things should be done, and in the majority of cases he will find his audience only too glad to listen, and prompt to obey.—*Medical News.*

EXPECTORATION IN PUBLIC PLACES

A law which would aim to prevent expectoration in public places should distinguish between those who chew tobacco, those who spit from habit, and those who,

from some post-nasal or throat-affection or from some lung-disease, are obliged to reject their secretions or poison their stomach and alimentary canal, but it should restrict all. The portable spit-cup is a nasty thing at its best. A law which would prohibit by heavy penalty the corner loafer, and especially the office-seeker around the public buildings, who seems to think that soiling the pavement with mouth-secretion will assist in obtaining a public office, would receive universal support. An ounce of prevention is always worth considering, and while dried tubercular sputum, when wafted about by the wind, is not without danger, its chance of infection is much lessened by dilution; still, the filthiness of the habit is a sufficient argument against the dirty custom without bringing up the danger of disease infection.

The question is a very broad one and a very important one, and while a few cases of arrest and fine help to restrain others, still such a penalty should be fixed that will be enforced as often as the law is broken, for it is well known that if arrests were made every time some one expectorated in a public place, the police force would have to be increased and the station-houses enlarged. Street-car conductors cannot prevent this filthy habit in their cars, because they are not sufficiently supported by their companies and by the general public. The custom of public spitting can be modified, but it is a question if too severe means will stop it entirely.

The women who are urging this measure are deserving of help and the good advice of the stronger sex, and care should be taken that the dangers of public spitting be stated clearly, but not exaggerated, by zealous partisans.—*Maryland Med. Jour.*

DO DOCTORS CURE DISEASE?

The public is suffering to an extent of which they have little comprehension, in consequence not only of their own misapprehension, but of those of physicians respecting the functions of the medical man. That it is not the physician's duty to cure disease is evidenced by many facts. Not a few diseases are incurable, being either fatal

or self-limited in their nature. No intelligent physician professes to be able to cure measles, smallpox, diphtheria, whooping-cough, typhoid fever, or any other disease of a similar character. Under favorable conditions, however, the patient recovers from all of these maladies—not, however, by the cure of the disease, but by its disappearance after having run its allotted course.

To make the meaning clearer, one or two illustrations may be offered: Morphia will cure pain, but it does not remove the cause of the pain. It cures the difficulty, but not the patient. An anesthetic will cure the pain caused by the amputation of a leg, so that the operation may be painless; but the patient is not cured—at least not by the anesthetic.

The public should be educated up to the idea that disease is not altogether an evil—that it is simply a manifestation of morbid conditions present; and that if these are removed at all, it must be, as a rule, by the efforts of nature, through the natural forces of the body—the *vis medicatrix naturae*. To check these efforts without removing the cause of the difficulty is to interfere with the natural process, and to make the patient worse rather than better. Physicians should continually instruct their patients that nature is the great physician, and that if they are cured at all, it must be by the recuperative powers of their own bodies, the duty of the physician being simply to aid nature in accomplishing this, and not to thwart or embarrass her efforts to restore the sick man to health.—*Good Health.*

Bromoform Mixture for Whooping-cough

Dr. Marfau very strongly recommends bromoform in the following combination:

Bromoform.....	48 drops.
Expressed Oil Almonds.....	20 gme. (5 1/2 fl. dr.)
Powdered Tragacanth.....	2 gme. (30 grn.)
Powdered Acacia.....	4 gme. (1 dr.)
Water.....	to make 120 gme. (4 fl. oz.)

Mix the bromoform with the oil, and add the other ingredients.

An ordinary teaspoonful of this mixture contains 2 drops of bromoform. For children under five years of age the author prescribes as a dose 1 drop for each year of age, which should be given three or four times a day. This dose may be gradually increased until it is doubled.

F.

CURRENT TOPICS

SEWAGE AND PUBLIC HEALTH

The extreme importance of the disposal of sewage is impressively illustrated by Dr. W. H. Welch, of Johns Hopkins University, in a paper published in the *Maryland Med. Jour.*, Vol. XXXVIII, No. 875. Among other good things he says:

The soil is the place to which, sooner or later, all organic matter returns. From it comes all life, and to it all life returns. "Dust thou art, and unto dust thou shalt return," embodies a profound scientific truth. The soil is the greatest laboratory in the world. It is there through the agency of microscopic organisms that organic matter derived from plants and animals is decomposed and converted finally into the simple inorganic substances which make the food of plants. The plants again build up these simple mineral constituents into the complex organic materials of their bodies, which make the food of animals. In this continual circulation of matter, agencies at work in the soil play an indispensable part—a part so essential that if this link in the chain should drop out all life upon this globe would cease in a comparatively short time.

It is through these agencies, which are chiefly living micro-organisms present everywhere in the superficial soil, that the soil is able to dispose of organic matter which it receives, and thus continually to purify itself. Upon this principle is based the method of disposal of sewage by irrigation and filtration through the soil. But there is a limit to the capacity of soil to convert organic material into a harmless state, and if this limit is exceeded we have a polluted soil. There are likewise various circumstances, which cannot be considered here, which influence the rapidity and extent of this process of self-purification. For example, when the organic material is not received upon the superficial layers of the soil, but leaks out, as through cesspools, into the deeper layers the process of purification is much slower and less efficacious. In this way the soil may become contaminated to great depths, and may bring serious injury to people living upon it. There are various artificial conditions, such as pavements, which render much of the ground in cities incapable of doing the work of virgin soil in transforming organic waste.

Now, what are the dangers of such con-

tamination of the soil? Some of these dangers we can point out with reasonable certainty; others, which we have reason to believe exist in view of certain benefits which regularly follow purification of the soil, we understand at present either very imperfectly or not at all.

Pettenkofer has called special attention to the fact that the air in the lower parts of our houses is derived in no small part from air drawn from the ground, unless the special construction of the cellars prevents this. If this ground air comes from a polluted soil it contains foul gases, the precise influence of which upon the health of the inhabitants it has not yet been found possible to determine; but there is reason to believe that it may be injurious, and certainly it must be regarded as offensive. That such air under certain circumstances may contain disease-producing micro-organisms is highly probable. When the soil has become saturated with illuminating gas derived from leaky or broken gas-pipes, the air of houses in the neighborhood may become so contaminated with gas drawn in from the soil that serious poisoning of the inhabitants may result, as has repeatedly been observed.

The view is widely held that serious contamination of the soil is injurious to the health of those living upon it, independently of the actual presence in such soil of the specific germs of disease. Exposure to such influences is thought to be capable of impairing mental and physical vigor and in general of lowering resistance to disease. Among the various factors which determine the higher death-rate in many crowded and insanitary localities, pollution of the ground is doubtless one of importance.

It is, however, more especially in the presence of the specific micro-organisms which cause infectious diseases, that we have to seek the chief dangers from contamination of the soil with human and animal excreta and household waste. Without proper methods of disposal of sewage abundant opportunities are afforded for the escape of such pathogenic micro-organisms into the soil.

The fate of such organisms after they have reached the soil is various. It has been demonstrated that the bacilli of tuberculosis and of typhoid fever may survive months, perhaps even years, and that those of cholera may persist for weeks in the soil. Whereas in virgin soil they do not find requisite food for their multiplication, the bacilli of typhoid fever may actually multiply in soil contaminated with organic material.

Having once reached the soil, these dis-

ease-producing germs may be conveyed to us in manifold ways. An important medium of transportation of bacteria from an infected soil is the water which we drink or use for domestic purposes. Our chief interest here in Baltimore in the contamination of drinking-water from the soil relates not to our own soil, save in the occasional use of wells, especially in the recently annexed districts, but relates to that bordering on the streams and reservoirs from which we receive our naturally excellent drinking-water. It is, therefore, not necessary to dwell upon this point on this occasion.

Among the various other ways by which harmful bacteria may reach us from contaminated ground it will suffice to specify their conveyance attached to particles of dust in the air, their transportation by flies and other insects, and by domestic animals, their presence upon vegetables, especially those eaten uncooked, and our own direct contact with the soil. It is evident that the possibilities of infection from soil contaminated with disease germs are numerous and often intricate.

MENTAL IMPRESSION AS A THERAPEUTIC AGENT

Dr. John P. Stuart, in a paper read before the Tri-State Medical Society at Nashville, Tenn., Oct. 12, 1897, says:

Hitherto our good, honest, scientific, and uncompromising doctor has pooh-poohed every complaint, every tale of woe, or story of suffering poured into his unsympathetic ear, which failed to show sufficient cause for disease; and the timid neurotic has sought and found a place to carry his woes and dollars in the legion of quacks that wait without the walls of legitimate medicine—ready to devour just such blind eager victims. And so it behooves us not to stand idle all day while the harvest is waiting. Let none go by that seek our help. And if it takes flowers instead of bitter herbs, attar of roses instead of asafetida, it should not only be our duty, but our pleasure, to give them red-hot, ice-cold, sugar-coated, gilt-edged, and soft-soaped, to that degree that will give satisfaction, to the mind, taste, and fancy of our patient. This will make them comfortable and grateful, and will render them more useful if not ornamental.

Psychiatry has long been a deep study with scientific men. From the days of Plato, Socrates, Aristotle, Hippocrates, and Galen on down, such poor afflicted mortals have been a phenomenon to the profession.

They have been possessed of gods, devils, demons, witches, and what not, from age to age, until now the peculiar vagaries, whims, and idiosyncracies of the many thousand

diseased minds that teem the pages of scientific history and psychology, are puzzling mysteries, and baffle all laws in nosology, classification, or system.

We have some psychic manifestations that fill the soul of the spiritualist with felicity. There is no rule to guide the neuropath. Each individual case must be studied out and treated according to its own peculiarities. Yet there is one thing to be remembered: these morbid conditions must not be classed with the imbecile, demented, or insane. Their minds are bright—sometimes remarkably so; their ideas fine, their conversation intelligent, and often entertaining; they have a lucid idea of the cosmology of things, and an appreciation of their natural eternal fitness. Such a mind can be but little affected. Yet upon one thing the cog slips and the loose screw goes rattle-a-tap, till you wonder, as you gaze into the face of your whining patients, if they are crazy or unconditional fools. Here is where we must have patience with our patients, smile our sweetest, and listen with great interest and deep concern to their long-winded and tiresome tales of woe. Look wise and say much, using all the medical terms that can be agglomerated into verbose and long-drawn sentences. Have a deep and learned name for every ache and pain, and prescribe some anodyne placebo, until you have time to study your case. Get the history of the parents, brothers, sisters, etc., and learn all the surrounding circumstances, habits, etc., if it takes months. When master of the situation, you can, by using little medicine and lots of "svengalism," effect a permanent cure. A strong mind is good medicine for a weak mind; some people love witchery, mystery, and myth; they feed on it with as much gusto as a hungry wolf on the dead carcass of a tender lamb. Give them all they want; do not let them go away dissatisfied; if you do, they will hunt a cure in some other doctor's office. S.

THE IMMUNITY OF THE NEGRO RACE TO CERTAIN DISEASES AND THE CAUSES THEREOF

Geo. C. Clark (*Maryland Med. Jour.*, Jan. 8, 1898) opens up the subject by questioning why the negro should enjoy immunity as to certain diseases. The immunity is an inherited one, and is due to the handing down to offspring the immunity acquired by ancestors exposed to the disease, for races which are not yet immune to certain acute fevers, and which are frequently exposed to them, suffer much less severely than people among whom the disease rarely appears. The immunity of the negro to yellow fever is generally accounted for by

supposing that only those who could resist the disease would live to have children, and that the immunity would be strengthened by union of the immune. As to malarial fevers, the negro belonging to a race which has from remote ages inhabited tropical, and therefore malarial regions, individual differences in susceptibility exist, the laws of natural selection inevitably coming into play, the tendency being constantly in the direction of race-immunity, the susceptibility of the negro being about one-fourth that of the whites. The immunity of the negro from chorea, too, is a well-known fact, and due no doubt to their more stable nervous system. Finally, the writer calls attention to the fact that enlarged prostate is of rare occurrence in the negro, and this, too, when the negro race is rather prone to fibroid disease, especially of the uterus. The theory is offered that but few negroes reach the age at which the prostate usually begins to cause trouble. L.

SOME DANGERS ARISING FROM SLAUGHTER-HOUSES, WITH SUGGESTIONS FOR MEETING THEM

Dr. C. W. Stiles states that the segregation of slaughter-houses is, in his mind, the first and most important step to be taken in preventing diseases which center at these places. His article, titled above, appears in *Mary. Med. Jour.*, Vol. XXXVIII, No. 873, and is summarized as follows:

1. A well-regulated system of slaughter-houses is as necessary to the public health as is a well-regulated system of schools to the public education.
2. Every slaughter-house is a center of disease for the surrounding country, spreading trichinosis, echinococcus disease, gid, wireworm, and other troubles caused by animal parasites, and tuberculosis, hog-cholera, swine-plague, and other bacterial diseases.
3. The important factors concerned in spreading these diseases are offal-feeding, drainage, rats, and dogs.
4. These diseases may be greatly held in check and in some cases entirely eradicated in two ways: First, by a reduction in the number of premises on which slaughtering is allowed, on which account it is urged as all important that there be a segregation of the slaughter-houses, so that all butchers of any given town will be compelled to do all their killing in a common inclosed and restricted area. In abandoning slaughter-houses, care should be taken to destroy the rats, in order to prevent the spread of infection. Second, by regulating the factors concerned in spreading the diseases: (a) Offal-feeding should be abolished; (b) drain-

age should be improved; (c) rats should be destroyed; and (d) dogs should be excluded from slaughter-houses.

5. A licensing of slaughter-houses by the State boards of health and the employment of an assistant State veterinarian, whose sole or more important duty shall be a sanitary supervision of all places where animals are slaughtered for food, are necessary.

6. The appointment on every local board of health of a competent veterinarian, whose duty it shall be to control the class of meat placed upon the block, is urged. All meats should be inspected at the time of slaughter, thus securing for the local consumer the same guaranty that the National Government provides for the foreign consumer and for interstate trade.

7. The prohibiting of the raising of any kind of stock within the premises of slaughter-houses is advised, as are also State regulations to the effect that when a stock-animal (horse, of course, excepted) once enters the premises of a slaughter-house it must never be allowed to leave those grounds alive, but must be slaughtered within two weeks' time.

8. In justice to the butchers, and as a protection to the consumer, the author strongly advocates the introduction of the German Freibank in connection with every municipal slaughter-house. B.

SOME OF THE CAUSES DEFEATING THE PROPER PROGRESS OF THERAPEUTICS

H. Beates (*Gaillard's Med. Jour.*, Vol. LXVII, No. 5, p. 265) concludes that, with few exceptions, those diseases with which we are most frequently confronted, and which comprise the more common or prevalent, compel the realization of the fact that therapeutics cannot lay claim to much, when viewed from the standpoint of the physiologist, pathologist, and surgeon. Considering acute croupous pneumonia, its treatment to-day is still argued as it was decades ago, and the average mortality of 28 per cent., now as then, substantiates the fact that in this disease therapeutics has not progressed.

If there is one fact established about pneumonia, it certainly is that it is not, *per se*, an inflammation of the lung, but is unquestionably an expression of a trophic derangement, followed by secondary inflammatory phenomena; and why its early treatment should still center about the antiphlogistic notion and circulatory infatuation, in spite of its almost incessantly demonstrated uselessness, is a question that can fittingly be propounded. The therapeutics of syphilis is still debated around the mercurial and non-mercurial methods, and such subdivisions thereof as the interrupted and continu-

ous, mixed, and several other useless combinations and modifications, which, when carefully followed as to their results, disclose negatives that should long ago have relegated them to the oblivion they so well deserve. Pertussis has a host of pharmaceutical preparations recommended for its treatment, the trial of which long ago incontestably proved their impotence.

As to the therapeutics of simple acute pleurisy, an ultimate resort to surgery is frequently necessitated by the consequences of a plan of treatment which advance in bacteriology and pathology has demonstrated to be no longer valid, in relying upon applications and the exhibition of absorbents. On the whole, to apparently be doing something and having as a result nothing, lends to nothing a dignity and value dangerous to the integrity of the profession. As to the causes operative in the maintenance of the foregoing situation, the author deems as the most important factor a lack of knowledge on the part of the profession of the natural course and termination of disease. Another cause is our *materia medica*, the use of a lot of obsolete and useless drugs. Associated therewith is the congener pharmacy, in that several active principles are contained in one crude drug, and according to the solubility of these in the medium employed in pharmacy do preparations and the drug itself represent remedial agents from which it is impossible to obtain uniform, definite, or specific results. Even the chief active principle, or that which classifies a drug, is present in such a varying percentage that it is impossible to prescribe any of these preparations with anything like precision or accuracy. Preparations should be assayed both chemically and physiologically therefore. The avidity with which the clinician grasps a certain class of literature is another illustration of an obstructive factor; and in connection with this, a degenerate therapeutics which already has in a great measure supplanted the legitimate and taken the place of that well-trained, skillful, and scientific practice that should be the purpose and highest achievement of the profession.

L.

PULMONARY ANTHRAX

Dr. Petrov (*Russian Archives of Neurology*, No. 32, 1897) reports the case of a patient who was taken with chills, pain in the side, and shortness of breath, and died on the fifth day. The autopsy revealed a great number of anthrax bacilli in the pulmonary lymphatics; but there were no discoverable skin-lesions or other signs of anthrax-infection.

R.

ORIGINAL PAPER

THE TREATMENT OF NEOPLASMS OF THE SKIN AND MUCOUS MEMBRANE WITH THE GALVANO-CAUTERY AND ELECTROLYSIS

By ALEX J. O. SKENE, M. D., LL. D.

MY attention has been especially called to this subject by seeing three patients that were treated a long time ago, one with electrolysis and two with the galvano-cautery. The results were so very satisfactory that they recalled many other cases equally complimentary to this method of treatment. One of the three cases was a nevus situated between the eyebrows of a child then 5 months old. The skin covering the elevation was of a bluish red for about half an inch across and three-quarters of an inch vertically. The tumor disappeared on pressure, showing that the enlarged vessels were mostly in the cellular tissue. It was growing very rapidly. Electrolysis was employed, and that child is now a boy 14 years old with no trace of the nevus or the treatment to be seen. The second case was one of epithelioma of the lower lip of a lady. She was examined by a surgeon of reputation, who advised its removal. I fully confirmed the diagnosis by clinical and microscopic examination, and removed the growth with the galvano-cautery. It is now four years since that operation, and there is no deformity of the lip nor any trace of the disease. The third case was nevus pilaris or hairy papilloma on the cheek. This was removed with the cautery, and there is only a small speck of scar-tissue, which is barely visible on close inspection. A hundred or more cases to illustrate the results of this mode of treatment might be given, but these will suffice to bring the subject to the attention of the reader.

Excepting in vascular tumors in which the large vessels are sub-cuticular, and in which it is desirable to preserve the skin covering the vascular growth, the galvano-cautery answers the best purpose in all cases. In the exceptional cases electrolysis gives the best results. Skill and accuracy in operating are very essential. The needles

should be round-pointed, so that they may close their tracks and prevent bleeding. They should be insulated to within a distance from the point nearly the length of the diameter of the tumor. This enables the operator to bring the acting part of the needle in contact with the tissue to be destroyed, and yet preserves the normal skin at the point of puncture. The electric current used should be strong enough to produce chemical decomposition at the negative and desiccation or cooking, but not charring, at the positive needle. These changes in the tissues are manifested by their becoming hard, especially along the line of the positive needle, which becomes immovable by sticking to the tissues. When these changes have taken place the current should be reversed and continued until the positive needle becomes loose.

If the needles are withdrawn without reversing the current, troublesome hemorrhage follows and interrupts the treatment. If there is no disposition to bleeding when the needles are partially withdrawn, they should be removed and again introduced into the parts of the tumor remaining unaffected, and the current used as in the first instance. In medium-sized tumors the treatment can be completed in two introductions of the needles, but, if any part escapes, as shown by the soft condition due to the circulation continuing in some of the vessels, the procedure should be repeated. The needle-punctures on the surface should be closed with collodion to prevent the entrance of anything that might cause suppuration. Usually repair goes on favorably along with the absorption of the destroyed tissue. If suppuration takes place the pus should be washed out through the needle-punctures, and drainage kept up with a few horse-hairs or twisted silk.

The galvano-cautery, certainly, so far as results are concerned, is infinitely the best method of removing neoplasms from the skin and mucous membranes excepting in such cases as just mentioned. When properly employed it causes less pain during the operation, the recovery is much more prompt and complete, and the scar-tissue that follows is very much less in extent than

by any other method of dealing with these growths. The objections to the various forms of caustics, such as nitric and chromic acid, are that they do not completely destroy the tissue, they cause very much more pain and suffering, they are not so certain in their results, and they leave far more unsightly scars. That which comes the nearest to the galvano-cautery is the paste of chloride of zinc, lactic acid, and caustic potash. These have been employed by Dr. I. N. Bloom, of Louisville, Ky., and his results approach most nearly those obtained by the galvano-cautery of any that I am familiar with. But they fall short of accomplishing the objects that are obtained so thoroughly and completely by the use of the galvano-cautery. Considerable practice is necessary to acquire facility in technique. The great object is to thoroughly destroy the diseased or abnormal tissue with the cautery at a degree of about red heat, and, while destroying all that is abnormal, not going beyond the boundary line or encroaching upon the normal tissue. It is very important, especially in vascular growths, to apply the cautery to the tissue to be destroyed before turning on the heat. If it is heated and then applied, there is very great danger of hemorrhage, especially in vascular tumors. A small cautery point should be used, unless the growth is very large, and it is most convenient to place it in the center of the mass to be destroyed while it is cold. The heat being turned on the cauterization or destruction of the tissue should proceed from the center toward the circumference, so as to make it complete without going beyond the boundary of abnormal tissue. It is always well not to go too deep at first. If it is found that there is still some diseased tissue deeper down, the ground can be gone over again until the destruction is complete.

In angioma, nevi, and epithelioma, especially when the mass or growth is large and vascular, it is better to begin at the circumference and work toward the center, always using the cautery at a dull red heat, since if the heat is too great, that is, white heat, there is sure to be bleeding. In fact, in cases of angioma, it is impossible sometimes

to operate in this way without having very decided hemorrhage. In such cases I have adopted another method which answers very well, and that is to seize the mass with a hemostatic forceps in the central portion or where the vessels are the largest, and strongly compress it, then turn on the electric heat and desiccate it before letting go. This will control the bleeding in the larger vessels, and then with a cautery point the rest of the tissue at the outer margins of the growth can be destroyed in the way already described. That method of operating can also be done in cases of epithelioma, but the results are not quite so satisfactory because the friable tissue breaks down in the grasp of the hemostatic forceps, and so cannot be controlled in that way, but in small vascular growths the results are very satisfactory in operating as described. This method is equally applicable in case the part operated upon be mucous membrane or skin. Where the diseased part is located on the mucous membrane, say of the cervix uteri, the lip, the tongue, or any portion of the mouth, the pain is slight, and, in the most sensitive cases, it is only necessary to use a little cocaine to be able to operate without causing any great distress. Indeed, this is the most painless method of operating, as it causes much less pain than any caustic or paste that I know anything about. In fact, it is not necessary to employ an anesthetic except in large epitheliomatous growths about the face. The most sensitive patients usually tolerate well the operation anywhere on the skin, unless the growth is unusually large. In case one fails to remove all the diseased tissue, which sometimes happens, it is a very easy thing to make a second application after the healing process has been completed, and the eschar has separated and come away, which usually happens at the end of a week. The condition of the parts when the operation has been well done is simply this: All the tissues are burned away or destroyed, and the surface is covered with a thin layer of charred tissue, which shows as a black mark outlining the extent of the original tumor. A few hours after the treatment the mucous membrane, or skin around the cauterized

portion, becomes quite red, but this redness passes off by the following morning, or sometimes very much sooner, and then all that remains to indicate the field of operation is the spot of charred tissue which is not by any means unsightly. There is of course no dressing necessary. The char forms a perfect crust under which the tissues heal kindly and very quickly. It is needless to say that the operation is aseptic, and hence there is no way by which any pathogenic germs can be left in the wound to set up inflammation. This probably accounts for the rapid healing, as in about five or six days the charred tissue usually separates, comes away and leaves a red surface that requires no further care. When the charred tissue separates the surface is usually completely healed, and only differs from the surrounding tissue in being of a deeper color. During the healing process the parts contract, so that on the separation of the charred crust the scar is very much smaller than it was at the close of the operation. The redness fades away gradually, and at the same time the parts keep contracting so that in the course of time the scar is almost, if not completely, imperceptible. A scar of a magnitude that is noticeable is left only in case the tumor is very large.

A point of interest in the management of nevi pilaræ (moles with hair in the center of them) that are so frequently seen on the face is that in such cases it is necessary to carry the cauterization deep down, almost through the true skin so as to destroy the hair-bulbs completely. If one only superficially cauterizes the hairs will grow up again and no great benefit will result. The cauterizing should be carried down deep in the center where the hairs are, and then continued upward and outward toward the surface, so that when the entire growth is destroyed the cavity left is cone-shaped, the apex of the cone being deep down in the skin. Cases treated in this way do remarkably well, because this cone-shaped opening contracts nicely and the results are finally very gratifying. I have in mind at this moment a large number of such growths that were on the faces so treated. The great point is to obtain complete, per-

fect results with the most desirable cosmetic effect, and the least possible or no disfigurement from scars. This method of operating gives vastly better results than any other means at our command. From quite an extensive experience I know that the results obtained are better than those with incision by means of the knife. In operating with the knife it is necessary to make a long incision and unite the parts with sutures, and the result invariably is that the suture-marks and a long scar are left. This is the fact even if every precaution is taken, and the best possible results are obtained in the way of immediate union.

In case there is any suppuration, as may happen at any time in spite of the utmost care to obtain aseptic conditions, there will sometimes be a little failure of union, and an ugly scar is left to annoy the patient. When the cautery is used no dressing is necessary, as the cauterized or charred tissue is itself by far the best dressing possible.

Again, if we compare the results with the caustics, such as nitric or chromic acid, the advantages are markedly apparent in that these invariably leave a very ugly scar that does not disappear completely, and remains a glaring defect for a long time to mar the beauty of the patient. The same may be said with reference to the use of pastes such as we have alluded to already. They all leave very ugly scars compared with the scar that is left, or the absence of scar, as it might be called, when the cautery is employed. This is one of the most important advantages of this way of operating, and it is only one, for the method has advantages in every particular over all other known methods.

My attention was first called to the galvano-cautery in the treatment of cancer of the uterus by my friend Dr. John Byrne, and I have always felt grateful to him for his valuable instruction. Dr. George M. Beard taught me how to practice electrolysis in the treatment of vascular nevi, and I desire to pay tribute to the memory of that gifted man who was one of the first to develop scientific electro-therapeutics.

SELECTED PAPER

THE RÔLE OF INSECTS IN THE PROPAGATION OF DISEASE *

WE deal first with the rôle of bugs, which M. Jikial has verified by experiment. The result of these researches have been published in the *Médizinische Obogrenie* and analyzed as they appeared by the *Médecine moderne*.

Some years ago, when director of a typhus hospital in Odessa, the author observed the first case of recurrent typhus in that town. The patient was a sailor whose last port of call was Jaffa; and as the time which elapsed between that call and appearance of the disease corresponded exactly with the incubation-period of the disease in question, it was presumed that the infection was received at Jaffa. Ten or twelve days after this first case others of the same kind appeared. The following month cases of recurrent typhus became still more common, and thus began an epidemic which lasted two years and attacked 10,000 persons. The first interesting fact observed was that the patients for the greater part were frequenters of night refuges, and particularly at first of refuges situated around the port. It appeared, therefore, evident that the affected sailor (drunken sailors commonly sleep in the refuges) had infected other persons, who in their turn transmitted the disease to other inmates of these asylums. But the question was to discover the cause of propagation of the infection in the refuges. It being admitted, on the one hand, that transmission of recurrent fever is caused by blood charged with spirochetæ, and that, on the other hand, even in the best-kept refuges there are to be found a considerable number of parasites of every kind, the author thought that these might have acted as agents of transmission. In most cases affected workmen continued their employment during the earliest stage of their disease. In the refuges bugs settle on one patient, gorge themselves with blood

* Translated from *La Revue scientifique*, by the French Correspondent of the *Medical Press*.

charged with spirochetæ, and then visit other subjects; and it is thus very possible that when making their attack on the second subject they insert in the wound a little blood remaining on the proboscis, or being perhaps crushed by the bitten individual, the blood of the bug inoculates the puncture.

In order to verify this hypothesis, the author essayed to find spirochetæ in the parasites common in the refuges. Being able only to examine lice, and with negative results, he proceeded by another method. Bugs were kept fasting until they became flat and quite transparent, and were then applied to the skin of patients and monkeys suffering from typhus, and whose blood contained spirochetæ. In every case microscopical examination of the gorged bugs disclosed presence of spirochetæ, and these could be stained even after a lapse of eighteen hours. It then remained to determine the virulence of these organisms. With this view the author applied fasting bugs to the skin of affected monkeys, and afterwards collected their blood antiseptically and with it inoculated a healthy monkey. Sixteen hours later the blood of this animal contained the organisms, and the animal became ill. Thus the rôle of bugs as agents of contagion was established.

The rôle of mosquitoes in transmission of paludism is examined in an essay published in the *Revue d'Hygiène*, by M. Vallin. The uniform failure of attempts to cultivate the hematozaine of paludism in water, in moist earth, and in a great number of other media appears to prove that this microbe does not exist in the same form anywhere except in blood; and it is, therefore, necessary to inquire if there does not exist for it, as for other parasites, an intermediary host. M. Vallin was thus led to support the mosquito, whose rôle in propagation of the filaria is now well known. A good number of facts tended to support this hypothesis.

Mosquitoes which abound in all paludal localities disappear on all elevations where endemic paludal does not occur. At Constantine, mosquitoes, which are very numerous in the Valley of Rummel, which is unhealthy, disappear in the higher and health-

ier parts of the town; the same at Bône. The central quarters of Rome, free from mosquitoes, are also healthy. In Madagascar, the French soldiers in 1895 who were so tried by fever were assailed by swarms of mosquitoes. Drainage of the soil, which prevents fever, makes also mosquitoes disappear. First attacks of fever only occur during the period when mosquitoes abound; during the rest of the year relapses only are observed. It is known that the greatest danger in paludal countries arises from sleeping with open windows; and the best precaution against entry of mosquitoes is to shut windows at night. It is during night that the danger of contracting paludism is greatest, and it is during the night that mosquitoes mostly attack their victims. In paludal districts it is known to be dangerous to sleep on the ground, and it has been observed that in houses the upper floors are more healthy than those below; they abound mostly on the ground level. The predisposition to fever is most marked in subjects with thin, delicate skins; and children who suffer so much from it are more subject to paludal fever than adults. Negroes, whose skin is thick and resistant, and who are little subject to its bites, display a remarkable immunity from paludism. It is very possible the immunity of negroes from yellow fever may be explained in the same way. Finlay, indeed, believes mosquitoes play a large part in transmission of this malady. It is recommended that fires should be kept up when it is necessary to pass the night in paludal localities. Mosquitoes are destroyed by the vapor of sulphurous acid; they burn themselves in the flames or are driven away by the smoke. It is true, mosquitoes may abound in localities where fever does not exist; but mosquitoes are not dangerous in themselves—they only become so when they carry the germ of paludism, just as they do not carry filaria unless there exist individuals affected with that malady, from whom the mosquitoes receive infection and carry it to water. Filaria does not occur wherever they swarm; it is only endemic in some regions. One can understand that immigration of individuals affected with filaria, into a country

up to then free from this malady, may bring about appearance of the disease. The appearance of paludism in the islands of Maurice and Réunion, following immigration of Indian workmen, of whom a good number were undoubtedly affected with paludism, can be explained in this way. It is not probable we can directly inoculate paludism from man to man, for paludal fevers do not spread by contagion, even when mosquitoes abound. Paludism is inoculable from man to man, as we shall see further on, but under conditions which the agency of mosquitoes cannot realize.

The hypothesis put forth by M. Vallin as to the rôle of mosquitoes in paludal infection has been supported by Manson, whose work on filaria gives him great authority in this question. It is known that embryonic filariæ found in the blood of men are not able to reproduce themselves in external media. It is necessary they should undergo one phase of their evolution in the body of mosquitoes. Embryonic filariæ introduced into the stomach of mosquitoes quit their protecting sheath, traverse the wall of the stomach, and lodge in the thoracic muscles of the insect. When the mosquitoes die and fall into the water, the filariæ escape and infect the water, and thus the water conveys the disease. In 140 female mosquitoes examined by Lewis, twenty were found full of filariæ. According to Manson, the flagella of the hematozoa of paludism represent the first stage of the free life of the parasite, and they comport themselves like the embryonic filariæ in the bodies of mosquitoes gorged with paludal blood. The filaria pierces the wall of the stomach-pouch and lodges in the body of the insect there, accomplishing one phase of the evolution. When the mosquito, having laid its eggs, dies on the surface of the water or damp earth, the parasite either re-enters a larva of mosquito or is set free. Man may thus become infected by drinking-water in which mosquitoes have died gorged with paludal blood, or by inhalation of dust emanating from dried marsh-lands.

Mr. Ross, in India, has made some interesting researches into this question.

He submitted to the bite of one, a patient in whose blood crescents existed, and he

found that the crescents very soon transformed themselves in the stomach of the insects. Twenty minutes after the bite all the crescents were transformed into special bodies, and at the end of thirty minutes many flagella were to be found. At the end of an hour spherical bodies and flagella had become rare; at the end of two hours there were only to be discovered dead spherical bodies. According to Mr. Ross, the organs of the mosquitoes have the power of facilitating transformation of crescents into spherical flagella. If a mosquito be killed five minutes after biting there may be found a large number of crescents, and these do not change as they do in a living insect. It is difficult to prove what becomes of the flagella, but Ross and Manson presume they penetrate the insect's tissues. Mr. Ross found in the stomach of mosquitoes at Secunderabad a gregarine, which he took to be an alternative form of the hematozoa of paludism. It is a very simple organism, composed of a cell with a nucleus; its usual habitat is the stomach of the larva of the mosquito, and it is endowed with lively movement. At the end of the larval state the gregarines became encapsuled and the cysts filled with psorosperms, each psorosperm containing a little granular mass and two falciform bodies.

The Malpighian tubes of the chrysalis which enclose the cysts allow them at the end of this stage to pass into the intestine. As soon as the insect quits its case it voids in the water a certain number of psorosperms, and others escape when it begins to suck blood. Mr. Ross has several times killed on his hand mosquitoes carrying psorosperms. It is very probable, as Manson affirms, that this gregarine of the mosquito has no connection with the hematozoa of paludism.

Mr. Ross conducted the following experiment to decide whether water polluted by infected mosquitoes can serve to transmit paludism. He got a man to drink a small quantity of water in which a couple of mosquitoes gorged with paludal blood had died after depositing their eggs. Eleven days afterwards the man had headache, lumbago, and fever, without premonitory shivering. The fever lasted three days, then

ceased spontaneously, and did not recur. Ameboid bodies were found in the blood of the patient. Mr. Ross repeated this experiment several times on Indians without being able to produce paludal symptoms of definite character. Messrs. Mendini and Bignami, in recent writings, both arrive at the conclusion that paludal infection is not derived from the atmosphere or from water, but probably from mosquitoes. And it is pointed out that the prophylaxis of the disease consists of such measures as prevent the bites, to avoid night air, and sleeping with open windows or on the ground floor. M. Bignami believes the mosquitoes get from the soil the germ of paludism, and inoculate men, their rôle being here thus different than it is in filarious disease.

It is thus seen that knowledge of the rôle of insects in the propagation of disease has been much enlarged during late years. It is proved that flies may transmit the bacillus of tuberculosis and of cholera, as well as the microbes of purulent ophthalmia; and their rôle in propagation of charbon has been proved long ago. Bugs may propagate recurrent fevers. Finlay and Hammond believe mosquitoes to be the chief agents in dissemination of yellow fever. Messrs. T. Smith and F. L. Kilborne prove that Texas fever is propagated by ticks, and that this fever is produced by a hematozoon. The researches of Dr. David Bruce (of the Medical Staff of the British Army) on the effects produced by the bite of the tsetse-fly show that they are due to hematozoa analogous to *Trypanosoma evansi*, which produce in India the disease known as sarra nagana, or the disease of the tsetse-fly, which in the horse and dog is characterized by fever, by edema of the subcutaneous connective tissue, and rapid destruction of the red corpuscles. The bite of the tsetse-fly is not dangerous, unless the insect have first sucked the blood of an animal affected with nagana, and when its proboscis remains covered with hematozoa, which are inoculated when the fly bites a sound animal. The following interesting experiment was made on dogs: Flies were shut up in a gauze bag, and were first placed on an infected animal and then on a sound one. A few days afterwards symptoms of nagana

appeared in the latter, and parasites were present in the blood. Mr. Bruce failed to produce the disease in districts away from its endemic region when causing horses to be bitten by flies caught within the dangerous zone.

It is thus proved that insects, flies, mosquitoes, and bugs must be considered as active agents in contagion, the more dangerous that they are often invisible, and that no barrier suffices to stop their passage, and that they carry germs, not from dead bodies, but from living patients, from whose blood they convey germs to sound individuals, thus realizing what may be called an experimental inoculation, against which it is impossible to guard. This danger being recognized, it is evident that destruction of insects ought to become a preoccupying question in preventive medicine.

A Curious Stone in the Bladder

At a meeting of the Berlin Medical Society, held June 16, 1897, Dr. Mankiewicz demonstrated a curious stone, which he removed by high section from a man's bladder. The stone weighed 10 drams, was 2 inches long, $1\frac{3}{4}$ inches broad, and 1 inch thick, was heart-shaped, and right through the center of it ran a piece of rubber catheter, the lumen of which was also filled with a stony mass.

The history of the case is as follows: The patient, 39 years old, suffering with rador urinæ, consulted a physician about a year ago, who introduced a Nelaton catheter for purposes of diagnosis. On withdrawing, half of the catheter remained in the urethra. As all attempts to remove it failed, it being finally pushed into the bladder, he was sent to a hospital, where the Boutonnière operation was performed and several pieces of catheter removed; but not all, as six or seven months after he passed a small piece of catheter, with incrustation of salts on it. From that time his troubles began, the urine became turbid, purulent, and offensive. The diagnosis of stone was made by the rectum, by the sound, and by the cystoscope; through the latter one could plainly see the red piece of rubber on the white stone. The man being a hypospadiac, large lithotrites could not be introduced, and high section was decided upon. Recovery uneventful. The author concludes with the warning not to trust to the reputation of the manufacturing firm, but to try each catheter and instrument thoroughly before introducing.

R.

CHRONICLE OF PROGRESS

GENERAL MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Serious Cerebral Injury—Forceps Case

Dr. Toms gives the history of a case of this kind occurring in his practice and first seen by him when the patient was about 12 years of age. It is thus described in the *Arch. of Ped.*, Vol. XIV, No. 3: Labor lasted about twelve hours, instrumental. Patient at three months developed convulsions, these returning every two weeks, then every two or three days, then every day, but slight in character. Following a fall from a window the convulsions increased in severity. Passing through several severe sicknesses the convulsions with irregular remissions continued until the patient was 7 years old, when they ceased. In physique at 14 years he was well developed, general health and functions normal, but has no speech. He seems to suffer from headaches, is restless, moving the various muscles in contortive motions. The diagnosis of eminent specialists was, that there had been at one time a large cortical clot, with subsequent mal-development. To all external appearances by measurement, examination, etc., there exist no marked abnormalities.

Successful Treatment of Leprosy by a New Method

Dr. Eduard Joseph reports the following case (*Deut. med. Zeit.*, XVIII, No. 57): A woman, 40 years of age, who lived in Brazil during the last thirty years, became infected with leprosy about ten years ago, and in the summer of 1896 came to Berlin for treatment. The case was very far advanced. The forehead and cheeks, the nose and the ears were intensely swollen and of a brown red; the eyebrows were entirely gone, and there were many nodules in the face. The skin on the entire body was brown red, leather-like, and here and there covered with nodules. The only white spot was on the hips, where the skirts hung. Numerous nodes were also scattered throughout the forearms and hands; the latter were also very much swollen, and could not be moved without causing intense pain. The same was true of the legs and feet; their sensibility was so diminished, that neither the hottest bath nor the strongest electric current could be felt. Standing and walking were impossible; she suffered severe pains day

and night, and large doses of morphine were powerless to diminish them. After the usual remedies were tried without success, the author instituted the following treatment: For three months she took a daily warm bath, with chamomile flowers and mallow in it; besides she got hot chamomile poultices around the feet and hands, and large doses of salicylates internally; wet cups were also applied several times. After this preparatory treatment, which resulted in the swelling on the hands and feet being considerably diminished, special treatment was begun. Every second day a pill consisting of 1½ grn. of extr. chelidonii, prepared from the fresh herb, was given tert. in die. Gradually the dose was increased to 2½ grn. Every alternate day a 10-per-cent. solution of extr. chelidonii was injected subcutaneously. Locally the following ointment was applied:

Extr. Chelidonii (Rec. Parati).....	10.0
Airol	10.0
Resorcin.....	10.0
Lanolin.....	70.0

Later, the fresh juice expressed from the fresh herb of *Chelidonium majus*, and treated with ether in order to remove the chlorophyll, wax, etc., was substituted for the pills and administered in teaspoonful doses tert. in die. This treatment proved markedly beneficial. The nodes, after discharging some pus, began to disappear; the skin assumed a lighter color; the pains diminished. She left the bed and could move her hands and feet freely. The disturbance in the sensibility of the lower extremities disappeared entirely. In short, the woman is in every way normal. She also gained in weight considerably. The author adds that the woman was seen by many physicians, among them, by Professor Koch, and by all of them the diagnosis of leprosy was confirmed. R.

Acute Spinal Paralysis—Infantile

Dr. F. E. Peckham, in *Arch. Pediat.*, Vol. XIV, No. 3, treats of this topic. The disease is most frequent in ages under 10. In a certain number of cases the disease is congenital, e. g., case of a child now 16 years old. This child at birth had the right foot in talipes equinus, left foot in talipes equino-varus, muscles atrophied, reflexes absent. After ten years the disease has a predilection for the male sex; before that it attacks either sex. Causes: family history negative, usually the acute diseases of childhood are sometimes coincidences, but are not to be regarded as a cause of this disease. Healthy children are as prone to attacks as others. A majority of cases develop in the heated term. This due to over-

heating and sudden cooling afterward. Teething is a cause ascribed by some. This may be classed as a coincidence also. The writer illustrates several types with cases. Class 1. Sudden onset; child in health suddenly falls and is unable to walk again. On examination a group of muscles is found paralyzed. No pain. Class 2. The congenital type. A third type has prodromata: restlessness, fever, headache, vomiting, diarrhea, short convulsions, cries out when moved, head is retracted as in meningitis. Pain may be in muscles and joints or it may be general. Manipulation may cause pain, but rigidity of any part is absent. The paralysis in these cases shows at once but may be delayed. Muscles become atrophied and bone-growth interfered with. A single group of muscles may be involved, or all the groups. Motor tracts are involved, sensation not impaired. Length of the paralysis is two or three months. Rapid advancement at first, then slow improvement may exist for years. Deformities are present, and depend upon the various groups of muscles affected. Some cases recover completely, but usually a permanent paralysis exists in some of the muscles. The test is the electrical reaction of the muscles. Irritation exists in the diseased cells. These supply the nerves. Stimulation of these nerves shows more activity than normal. The irritation then subsides, and there follows a course of gradually decreasing activity, until no response is awakened. But when the muscle itself is stimulated there is a difference in response to the two currents. The Faradic current: increased activity of the first days is the same, but this gradually fails to the point of no response. When, however, the galvanic current is used the reaction of degeneration gradually becomes established. Differential diagnosis: in infantile paralysis the convulsion is general, in hemiplegia it is unilateral, in infantile paralysis knee-jerk absent. In hemiplegia the knee-jerk is exaggerated. In the latter the muscles would respond to Faradism, while in the former they would not.

In myelitis, loss of sensation, and paralysis increase with the progress of the disease. In the early stage of infantile paralysis, there are retraction of the head and sensitive spine. It may be impossible to distinguish from cerebro-spinal meningitis. In a meningitis with effusion or pus there may be paralysis; but with a subsidence of the acute stage this paralysis would disappear. In infantile paralysis, as the acute symptoms subside the paralysis becomes more prominent.

Infantile paralysis may be distinguished from rheumatism in those cases attended

with pain and tenderness about the joints by a test of the tendon reflexes and the test of electrical reaction. Hip disease—this causes spasmodic contraction of muscles on manipulation, while in infantile paralysis there is relaxation. Prognosis good as regards improvement.

Treatment symptomatic—hot bath, sodium salicylate, catharsis, ergot, belladonna, bromides, iodides, mercurials, strychnia, cups or ice to the spine, rest and correct position of limbs, heat. But in the acute stage any treatment is of little utility. After the acute stage more active treatment, warmth, electricity: Faradism or later the galvanic current, massage, exercise, active and passive.

Invasion of the Circulation by Micro-organisms during the Death-agony

By a series of animal experiments, Drs. F. Chvostek and G. Egger (*Wien. klin. Woch.*, X, 3, 1897; ref. *Schmidt's Jahrb.*, 1897, Bd. 254, p. 126) have confirmed the statement of Bouchard and Wurtz, which was to the effect that during the death-agony there occurs an invasion of bacteria especially from the intestine into the circulation. The authors assume that with the death of the cell-protoplasm the bactericidal properties of the latter are so far suspended as to permit the unrestricted migration of bacteria into the blood-channels.

Another interesting contribution upon the same subject is made by Drs. Ch. Achard and E. Phulpin (*Arch. d. Med.*, Expt. VII, 1, p. 25), the authors directing their attention especially to the mode of invasion under the circumstances noted above. They examined the blood of forty-nine cases during the death-agony, and also the fluid obtained from the liver by aspiration, carefully observing the technique attending bacteriological examinations. After death the heart-blood and liver-juice were examined. The results varied. The first group of cases included those in which microbes were detected during life. In six cases—one septicemia, one cancer of uterus, one pyelonephritis, one broncho-pneumonia, one streptococcus endocarditis—bacteria were found in the blood; in eight further cases they were not found in the blood, but only in the liver-juice. In the septicemic case the microorganisms evidently had not entered the blood during the agony, but preceded the latter. In a second group comprising twenty-four cases, the examination during life was negative, though microbes were found post mortem. These cases included 3 cancers of uterus, 1 pylorus cancer, 1 pneumonia, 2 broncho-pneumonias, 2 mitral insufficiencies, 1 pleu-

ritis, 3 apoplexias, 1 senile gangrene, 1 uremia, 1 pulmonary tuberculosis and 2 liver affections. In the third series of eleven cases—1 Bright's disease, 1 emphysema, 5 pneumonias, 2 phthises, 1 uremia and 1 pylorus cancer—the examination was also negative post mortem. The external temperature is very important; if it was above 23° C., then the examination was positive post mortem; if it was below 19° C., the result was almost always negative. The liver is always first invaded, from the intestine by way of the bile-duct. The *Staphylococcus albus* was most frequently found, often next the *Bacterium coli*, either alone or associated with others.

Pericarditis in Rheumatoid Arthritis

Gilbert A. Bannatyne, in *Brit. Med. Jour.*, No. 1933, p. 138, cites two cases in which an acute pericarditis occurred during the course of rheumatoid disease. In one, there was pericarditis, followed by pneumonia, diarrhea, and a skin-eruption. In the other, there was herpes, followed by pericarditis and pleurisy; while both occurred in the course of acute rheumatoid changes. The symptoms cleared up rapidly in the joints—a rare occurrence in uncomplicated rheumatoid arthritis. The author considers that the conditions described must have been due to an infective organism, and that in all probability the cause of the rheumatoid disease was the cause of the pericarditis, and that these organisms gave rise to some metabolic change inimical to their further existence both in the joints and other special sites. In pure, uncomplicated rheumatoid arthritis such production must occur more slowly. If this theory is not correct, the solution of the mystery must rest in the supposition that the infection was a mixed one, and that the products of one were inimical to the life of the other.

Clinical Observations upon Loose and Displaced Kidney

Dr. John P. Bryson (*Boston Med. and Surg. Jour.*, July 8, 1897) makes the following point as regards the pathology of this condition. First, in his opinion, loose or displaced kidney was really a disturbance in the fatty capsule; whether or not enteroposis accompanied, the author could not say. There existed certainly a loosening of the capsule, then the capsule itself becomes loosened from its posterior and superior attachment in this way slipping around with the kidney. These abnormal conditions are combined to a greater or less degree. Continuing under symptomatology the author states that pain in the

neighborhood was found to be in inverse proportion to the amount of motility of the organ. Gastric disturbance usually followed movable kidney of the right side; this symptom had never been observed in left-kidney displacement or disease.

In the discussion of Dr. Bryson's article, Dr. White, of Philadelphia, spoke of the relative frequency of movable kidney in women, believing it to be due in the main to pregnancy, tight-lacing, and the disappearance of fat from exhausting disease. Gastro-intestinal symptoms were explicable upon mechanical grounds—disturbance of the duodenum. Dr. Fuller, of New York, said some cases of painful kidney were cured by simply disturbing.

Dr. Janeway, of New York, quoted by Dr. Tuttle, has noted the clinical fact that the more movable the kidney the less severe the renal symptoms, while the gastro-intestinal symptoms were correspondingly increased. K.

Posture in Percussion of the Heart

Dr. Donald Rose Paterson (*Brit. Med. Jour.*, No. 1933, p. 135), as the result of a series of experiments on dogs and the consideration of frozen sections, recommends the prone position as bringing a larger area of the heart's surface into close proximity to the chest-wall, and therefore more available for accurate percussion. His experiments further show the advantages of the prone position over left-side recumbency, and it is quite clear that the latter possesses little value for the purposes of percussion.

He made an examination of a large number of healthy individuals of different ages and sexes, first percussing the absolute dullness in the erect posture and recording it in outline-form, then placing the individual in the stooping posture and noting and recording any alteration.

The cardiac impulse was found in the majority of cases to move outward in the prone position, and at the same time became more diffuse. It is frequently palpable outside the nipple-line where in the erect position it is quite within that limit. The average extent of its excursion ranged about half an inch. The limits of absolute dullness underwent considerable change. The upper and left border, which may be considered as one, curved from just above the junction of the fourth left costal cartilage with the sternum, then downward and slightly outward to the position of the impulse in the nipple-line.

The author believes that this method of examination will be found to be much more precise than the estimation of the relative dullness in the supine position, inasmuch as it can be carried out by a lighter stroke and

the percussion-note is more definite. He avoids those transitions of sound which easily lead to error and which are scarcely to be recognized even by long training and the most practised ear. The constant vibration in the pulmonary borders is largely eliminated, and having to deal with an increased area giving an absolutely dull note, the accuracy of the percussion is greater and observation is less likely to err. There is a further advantage which has been pointed out by Gumprecht in that it brings out an area of dulness which may be quite impossible to ascertain in the supine position. In tympanites of the stomach and colon the author has on more than one occasion experienced difficulty in determining the cardiac area until the patient was placed in the stooping posture.

Absorption of Foreign Substances by the Faucial Tonsils in the Human Subject

Dr. J. L. Goodale (*Jour. of the Bost. Soc. of Med. Sci.*) states the results of his experiments as follows:

Although the tonsil is generally credited in the text-books with possessing an absorbent power, yet so far as the author is aware, this view has never been experimentally proved. Indeed, the experiments of Hodenpyl, the most complete hitherto on the subject, in which substances were applied to the free surface of the tonsils of lower animals, led him to conclude that the tonsil does not absorb through an intact mucous membrane.

In view of the great difference existing between the stout, compact mucous membrane covering the free surface of the tonsil, and the delicate, loose character of that lining the crypts, it appeared to the author reasonable to expect that absorption, if it existed at all in the tonsil, would occur more readily through the latter than through the former. The following experiments were therefore undertaken:

Foreign substances were introduced into the crypts of human tonsils, which were more or less hypertrophied and consequently demanded excision. After the substance had remained a given time in the crypts the tonsil was excised and portions of it immediately placed in corrosive. After paraffin-embedding, serial sections were made through the crypts in question, stained, and examined. After much experimenting, carmine in aqueous suspension proved the most satisfactory substance for this purpose, owing to its insolubility, inert nature, extreme fineness, and conspicuous appearance. In sections stained with hematoxylin and aurantia, particles of carmine smaller than *Streptococcus pyogenes* were

easily recognizable. The carmine suspension was introduced into the crypts through a blunt pliable silver cannula fitted to a hypodermic syringe.

Twelve cases were thus examined. As a control, in two cases the tonsils were excised immediately after the introduction of the carmine. The other cases ranged as regard the time intervening, from twenty minutes to ten days.

These investigations demonstrated that:

1. Absorption exists normally in the tonsil and takes place through the mucous membrane of the crypts.

2. The path of the absorbed substances is in the interfollicular lymph-spaces in the direction of the larger fibrous trabeculae.

3. During the process of absorption, foreign substances encounter phagocytic action on the part of the polynuclear leucocytes situated in and adjoining the mucous membrane.

4. Bacteria are normally present in the crypts of the tonsils, but are not, at least ordinarily, demonstrable in the tonsillar tissues proper.

5. In acute lacunar tonsillitis bacteria are greatly increased in number in the crypts, but do not necessarily occur in the tonsillar tissues, although, under certain conditions, as in Fraenkel's cases, they may do so.

In view of the preceding facts, the supposition appears possible that bacteria may be continually making their entrance into the tonsillar tissues, but at the moment of entering ordinarily encounter conditions which terminate their existence.

Furthermore, since it is not necessary for bacteria in acute lacunar tonsillitis to occur in the tonsil outside of the crypts, the possibility is at once suggested that the inflammation of the tissues may be due to the absorption through the mucous membrane of irritating toxins formed in the crypts, as in a culture-tube.

Finally, while in some cases acute lacunar tonsillitis may, as by Fraenkel's hypothesis, arise from a primary infection of the nasal mucous membrane, yet the possibility is shown by these experiments that the tonsils may also become directly infected through the fluids of the mouth. B.

Retained Intubation-tubes—Causes and Treatment

Dr. O'Dwyer (*Arch. of Pediat.*, 1897) discusses this subject. In certain cases obstruction to respiration exists after diphtheria, caused by traumatism with occasional exception of vocal-cord paralysis. A tube that does not fit causes traumatism from imperfect construction, or a perfect tube too large for the lumen of the larynx,

or a tube perfect in fit and make, but not cleaned often enough. A stenosed condition may persist by lesion just below the vocal cords in the subglottic division of the larynx. Photographs of normal and diphtheritic larynges graphically illustrate why traumatism exists. Sloughing and possible necrosis are likely to follow the forcible introduction of a tube. Destructive injury is infrequent only because it is impossible to introduce the supposed correct tube, and a smaller size had to be selected. Some degree of injury will produce edema in the neighborhood of the glottic chink, and hence the obstruction. In the early stages dyspnea returns slowly. The interval between removal and the necessity for reintroduction decreases. Slowly returning dyspnea means that stenosis exists chiefly in the subglottic regions, the lining membranes of which cannot swell while the tube is in place. Rapid return of dyspnea shows edema. Exceptionally rapid asphyxia may come from granulation-tissue originating higher up, from complete destruction of cricoid cartilage, and from abductor paralysis.

A tube with a rough head, either from faulty make or from coating with calcareous granules, will cause ulceration which cannot heal, and hence fungus-granulations which fall into the glottic chink.

Complete destruction of the cricoid cartilage will permit of collapse of the trachea as soon as the artificial support is removed. This is followed also by rapid asphyxia, which is rare. The condition has been found on autopsy.

Paralysis of the vocal cords in young children can scarcely be diagnosticated from the other conditions named above. Paralysis of the intrinsic laryngeal muscles is a rare sequel of diphtheria. Paralysis is a late sequel, and ordinarily ample time is had in which to get rid of the tube.

The treatment, therefore, in these cases of lesions producing stenosis, is to reduce the size of the tube and relieve the pressure, thus permitting a return of normal circulation and healing of ulcerated surfaces. A tube one or two sizes smaller than is suitable for the age is necessary, but the shoulder and the retaining swell sometimes must correspond to the age.

In case of an addition of a large retaining swell to a small tube, the thick portion must begin higher up. This brings the tube within the stricture, producing pressure. This defect can be remedied by lengthening the tube and carrying the retaining swell closer to distal end. Two tubes made on this plan are necessary as a fatal apnea would often result before the

tube removed could be cleaned and reinserted. The tube should be changed every five days to avoid irritation from calcareous deposits. The time of changing the tube should be lengthened according to amount of deposit found. Tracheotomy is not advised, because the tracheal cannula, if long worn, produces a stricture more difficult to heal than the primary one. In case of extensive subglottic ulceration, the rapid healing, following the opening of the trachea, will be likely to produce a close cicatricial stricture, if not occlusion, of this narrow portion of the larynx.

In another class of cases, viz.: where granulation-tissue cannot be gotten rid of by a fair use of the special tubes, tracheotomy is the only alternative, followed by removal of the cannula as soon as air enough to sustain life can be had through the natural passages. In cases of complete destruction of cricoid cartilage, tracheotomy and the continual use of cannula through life are called for. In adductor paralysis, in which the retaining power of the vocal cords is lost, this power to anatomical constriction in cricoid region should be transferred by a proper tube, increasing the size of swell until the tube is retained. For persistent stenosis due to repeated laceration, the tubes should be removed carefully and reinserted two or three times at intervals of five days. Perfect instruments, consideration of the size rather than the age of patients, and the addition to the ordinary croup set of these specially constructed tubes are important factors for the success of these procedures.

I.

Influence of the Nervous System in Skin-diseases

Dr. James M. Winfield, in an address before the Medical Department of Syracuse University (*Med. News*, 1897), stated that perhaps the most frequent neuro-cutaneous disturbance which the general practitioner is called upon to treat is simple acute facial erythema of the menopause, the so-called hot flashes. This is undoubtedly caused by some disturbance in the sympathetic system producing a sudden filling of the cutaneous capillaries; the inhibitory nerves to the papillæ being taken off their guard, this phenomenon results. If this erythema continues for any length of time it will be observed that the skin has grown thicker, and that small red lines have appeared about the nose and over the molar eminences. These are enlarged capillaries. Finally, small papules and pustules will be seen, and the condition is then known as acne rosacea. The counterpart of this climacteric disease is simple acne, which occurs about the time

of puberty. In girls, at the beginning of menstrual life, there are frequently a number of peculiar reflex nervous phenomena, which have more or less effect on the cutaneous circulation, and this is often sufficient to cause the appearance of acne.

Another neurotic skin-disease is urticaria (hives or nettle-rash). No age or sex is exempt, although it is more common in females and children. The causes are so numerous that for convenience of study they should be classified—first, into direct or local irritation of the skin, and, second, into indirect or reflected irritation. Under the first head are placed bites of insects, as fleas, mosquitoes, etc. The bite of a single insect will often produce enough irritation to cause an outbreak of urticarial wheals in the regions of the skin far remote from the original bite. The irritation is conveyed along the sensory nerves, causing reflex urticaria. Indirect irritation acts chiefly through the alimentary canal, usually the stomach or upper intestinal tract, the irritation being applied to the gustatory nerves and reflected on the skin. Shellfish, strawberries, and many other articles of diet are capable of producing in some people severe attacks of this disease. Medicines, such as quinine, copaiba, morphine, etc., also have a similar power. Disorders of the pelvic organs are frequently accompanied by urticaria. Urticaria is also seen in diseases of the nervous system, as locomotor ataxia. The disease is primarily a vasomotor disturbance. Its course is usually this: A spasmodic contraction is followed by a paralytic dilatation of the vessels and stasis of the capillary circulation; exudation ensues, producing acute edema, which lifts up the epiderm into a wheal.

The influence of a deranged nervous system is seen in that common and protean disease, eczema. The eczematous patient is never in good health; he complains of being out of sorts, and there is a condition of nerve-exhaustion, be it from worry or overwork, either of mind or body. Irritation of the alimentary canal or genital tract acting reflexly on the nerve-centers, and thus producing capillary dilatation, will provoke an attack of eczema. Eczema has been known to occur as a sequel to neuralgia of certain nerves, and it is often associated with asthma.

The fact that direct disturbance or disease of the nerves may produce disease of the skin is proven by the occurrence of zoster. Kaposi, of Vienna, believes it is a nerve-toxemia. Dr. W. considers malaria an active cause. The malarial plasmodium acts in a similar manner to any other toxic substance, it clogs the blood-vessels

and impoverishes the blood, and finally produces a form of neuritis. That zoster is a neurosis has been proved automatically by Baerensprung, Charcot, and many others. The lesions observed are an interstitial inflammation of the posterior ganglion and a neuritis of the trunks of the nerves arising from it to supply the diseased cutaneous area.

The author considers pruritus to be a functional defect in innervation, in which itching is the only direct symptom.

Pemphigus occurs very infrequently, especially in the United States. Its etiology is obscure, but all observers claim it to be of neurotic origin. It frequently accompanies various nervous diseases, such as posterior spinal sclerosis, degeneration of the peripheral nerves, chronic myelitis, and acute spinal meningitis.

Dermatitis herpetiformis and lichen planus are both rare diseases, in which the etiology is obscure. Both diseases may be caused by mental worry and overwork.

Raynaud's disease is a gangrene symmetrically distributed over the skin, generally affecting the fingers and toes. Its pathology is not clear, but the disease is now generally understood to be due to a spasm of the arterioles, though whether this spasmodic condition is of central or peripheral origin cannot be positively stated, Raynaud considered it to be central.

Finally, Dr. W. states that leucoderma, or whitening of the skin, is generally considered to be of neurotic origin also. G.

Abortive Treatment of Acute Coryza

Bul. gén. de Thér. (No. 3, 1897) contains the following by M. Courtade on nasal irrigation with hot solutions at 50° C. (122° F.): The idea entertained by most classic authors that 50° C. is too high and intolerable a temperature for the delicate mucous membrane of the nose is exploded by the facts. Henry Weber, of Leipsic, in 1847 experimented with water at that temperature to observe its effect on smell, and he noticed no intolerance for that degree of heat. The author has used solutions 50° to 52° with comfort, employing Weber's siphon. If at 50° C. in the reservoir, it becomes 48° or 47.5° C. when entering the nose and 45° when leaving it, losing about 2° C. in passing through the fossæ. A half-liter of saline solution will give that result. The stream of water must not be directed against the walls of the fossæ, but as much as possible in the axis of the fossæ. There should be no nasal obstruction. If a child is being treated he must be manageable. The reservoir may be about four inches above the level of the nose. The nose-

piece must be capable of regulating the flow or stopping it instantly, so as at times to prevent overflowing the face with the solution. The classic authorities are unanimous in saying that hot injections congest the mucous membrane. Troeltsch employs solution at 34°, Morell-Mackenzie at 32°, Lennox Browne at 35°, Moldenhauer at 30° to begin with and then at 25°; but it is not true that a temperature of 45° to 50° C. congests the mucous membrane—on the other hand, it contracts it. It is employed for that purpose in gynecology.

The local symptoms under this treatment disappear rapidly, the obstructed fossæ open up, comfort is felt, headache goes away, running of the nose quickly lessens, and a few treatments are usually enough to scatter the attack.

It has materially aided the flow of tears through the lachrymal canal in some cases where these canals had been occluded by the intense congestion.

If certain patients are oversensitive to this degree of heat, begin with 45° C. and increase to 50° C. as the patient gets accustomed to it. The higher the temperature the less liquid is to be used proportionately to make the amount of heat imported to the mucous membrane of the fossæ a constant quality with each treatment. Sea-salt, bicarbonate of soda, boric acid, or some antiseptic solution may be used indifferently as the therapeutic indication is met by the requisite degree of heat. Inflammations of the upper pharynx are benefited at the same time. This treatment does not dispense with local surgical measures called for. The dangers to the middle ear are avoided by a proper attention to details in administering the douche.

H.

Action of Colored Lights upon the Retina

Pergens, in the *Brussels Society Annals*, Vol. 6, fasc. 1, 1897, gives the results of a series of interesting experiments on the action of the monochromatic light upon the retina. Dogs were experimented upon, and the points noted were the migration of pigment and the histo-chemical changes induced by the spectral colors. His summary is as follows:

1. The migration of pigment is at a minimum for the red and at a maximum for the blue. Thus it is not a physical intensity that causes this variation, since red is known to be more active than blue.

2. When a single eye is illuminated the pigment of the retina of the closed eye also migrates, varying with the character of the light.

3. The cones contract differently under diverse light stimuli, but apparently in the

same degree, and there would appear to be no relation between actinic power and intensity of the waves as far as tissue reaction was concerned.

4. The quality of nuclei contained in the rods and cones diminish under the action of the rays of the spectrum, but not in a degree corresponding with the luminosity.

This decrease is at its maximum for the red and at a minimum for the green.

5. Prolonged exposure to the action of certain rays seems to produce variations in the basic portions of the cytoplasm and nucleus, the histo-chemical changes being more marked here than in the acid or neutral portions of the cell.

6. Röntgen rays gave no reactions.

J.

Simple Melancholia

Dr. H. E. Allison, Superintendent of Matteawan State Hospital, N. Y., writes in *Med. Rec.* (1897) on the encouraging results to be expected in the proper management of this condition. It is a disease which arises from a lowering of the physical and mental forces, and is accompanied by depression of spirits and nervous exhaustion. The three forms of melancholia are: First, simple; second, melancholia with stupor; third, the agitated or frenzied variety. The first is the most often seen and most important of all to deal with properly, so that the second and third forms may be warded off. In all forms the chief mental factor that is noticeable is the predominance of self, or egoism. The patient is self-conscious; there are no delusions; business is a burden; it is difficult for the patient to fix attention or think consecutively. He shuns society, is morbidly sensitive, cannot properly associate ideas, and is given to introspection and gloom. But he will confide with his physician and is a hopeful case for treatment.

Neurasthenia and constant fatigue are present, and the patient cannot overcome ideas which dominate his mind, though he sees they are unreasonable and absurd. Self-analysis is carried far, and smallest affairs are invested with great importance. Such a patient needs more than anything else the moral support of another he trusts, from whose words he receives a sense of strength. This friend, if a physician, has here the secret of his success. The physician must then divest the patient's mind of the disease and attach it to his physical condition. This gives him a tangible foe to combat, and not an intangible mental condition with which to struggle. His liver, his digestion, his intestinal functions, are sure to be faulty, and may well bear the

blame. The physician should keep the patient's mind hopeful, that this physical basis for this trouble is capable of being mastered and overcome, and he should explain to him as nearly as possible the true state of his bodily health, and give him the *rationale* of the treatment which he proposes to use. He will like and be benefited by the confidence, and will lose the gloom due to the thought that his trouble was mental.

Special diseases, like rheumatism, neuralgia, syphilis, eye-strain, etc., when they exist, must be first attended to.

As a rule digestion is disturbed and constipation is a constant complaint, producing autotoxemia. The food taken is neither digested nor assimilated, and there is no condition in which a large amount of food is more needed. Daily doses of cascara, or pill aloin, strychnine, and belladonna are very beneficial for constipation. Bismuth subgallate, salol, and the acids are indicated for the stomach. When both bowels and stomach are regulated then large amounts of food should be given. For sleeplessness, hyoscine in small doses at the beginning is very efficient. Sulfonal and trional, in two doses, one three hours before bedtime, and the other at bedtime, act well.

As a rule, the symptoms will disappear without other special treatment.

Kidney-disease and Insanity

T. P. Prout (*Am. Jour. of Insanity*, 1897, p. 399) gives a short résumé of the American and English work on auto-intoxication as a cause of insanity, and more particularly that work relative to the kidneys. Some few statistical recapitulations, which would tend to show that kidney-disease is more frequent among those dying in the hospitals for the insane than in those dying in general hospitals, are also given.

Morphine Stored in the Brain

Bul. Commercl. (No. 8, 1897) contains an epitome of a case presented before the Academy of Sciences, by Antheaume and A. Mouneyrat. The case was observed closely at the Sainte-Anne Asylum in conditions particularly favorable for research. A man of 42 years commenced eight years ago the therapeutic use of morphine. Four years later he began to increase his daily hypodermic dose of 4 gme. of morphine and 3 gme. of cocaine. At his entrance into the asylum he had for two years renounced the use of cocaine, but still took daily 2 gme. of morphine, and gave the usual symptoms of chronic morphinism.

He was progressively and slowly deprived of his morphine without incident,

until at the end of one month the injection was stopped entirely. This appeared at first to be well borne; but after fourteen days he died suddenly. An examination of brain, liver, and kidneys was then made by a slight modification of Dragendorff's method. As a result of the process morphine, or one of its immediate derivatives, was found in these organs, most being in the liver, with smaller quantities in the brain and kidneys. H.

Temporary Intubation (écouvillonnage) in Diphtheritic Laryngitis

Le Jour. de Clin. et de Thérap. inf. (Nos. 2 and 3, pp. 32-34, 49-51, 1897) translates from the *Jour. Grec*, Galien, an article on this subject by Dr. Caravossili, chief of the clinic in pediatrics at Athens. He credits Variot with employing O'Dwyer's tubes as simple pistons or dilators of the glottis. Bouchut had proposed tubage in 1858, only to have it opposed and discredited by Trousseau. But O'Dwyer's admirably perfected tubes permit of operation with safety. They were adopted in Europe first by Bauchfuss (St. Petersburg), Bokai (Buda Pesth), Mofféi (Naples). Roux, who popularized antitoxin in France, recommended tubage as the substitute for the customary tracheotomy. Bayeux since 1895 has modified O'Dwyer's tubes so as to effect their easier removal by enucleation. Dupuytren in treating the son of the Mameluk of Bonaparte in a case of very grave croup, succeeded in detaching the false membranes from the larynx by means of a swab made of whalebone and sponge tied to it. Later Loiseau made use of a method thus described by Archambant: With the left forefinger raise the epiglottis; along this finger as a guide carry a tube, with sponge attached, into the larynx, by which to apply medicines, or even introduce a curette or forceps for withdrawing the membranes.

The process under consideration is the use of an ordinary metal tube in the larynx, withdrawing it again as soon as the respiration is regulated by the free entrance of air. Variot had had cases at the Bretonneau, where O'Dwyer's tubes had been inserted and had had to be immediately removed to avoid suffocation, when preparations for doing a tracheotomy were forestalled by a fit of coughing with expulsion of masses of false membrane, immediate relief of the breathing, and recovery. This suggested the procedure of temporary intubation. Does this use of the tube detach the membrane, or was it loosened by the antitoxin; or does the mechanical dilatation alone, or combined with these, cause the removal of the obstruction? We cannot be sure, for

often cases of large moulds thus expelled are unaccompanied by difficulty of breathing, wheezing, or spasm of the glottis. These cases get well, or die, without signs of obstruction.

The tube is allowed to remain in one to five minutes, long enough to allow the respiratory movements to become regular. The child gets relief, sometimes transient, often permanent. Serum is used in nearly all cases. They are kept in rooms saturated with steam. Variot uses codein to lessen spasms, 1-20 grn. in syrup to a child under 1 year, 1-7 grn. to 1-3 grn. to a child 3 to 6 years old, given every half hour for three or four times. The indications for this process are the same as for tubage. In the four illustrative cases, the Loeffler bacilli were found, and in one the staphylococcus as well.

He concludes that temporary tubage may render real service, and ought to be carefully tried. Its advantages are these: The shortness of the process avoids the difficulty of swallowing in permanent tubage.

The glottis is dilated to permit of easier expulsion of membranes and pus than could occur if the tube were left in.

The tube is not there to become obstructed.

Ulcers of the cricoid, sometimes induced by the permanent tube, are here avoided.

Tracheotomy is refused where this temporary tubage is accepted.

Spasm of the glottis may reappear in temporary as well as in permanent tubage, and tracheotomy may have to be the *dernier ressort* in either case.

Tracheotomy seems preferable to tubage in tracheo-bronchitis with profuse secretions and croup, the former being more easily expelled than through the tube.

Mycosis

Dr. E. F. Ingalls, in his clinic in Rush Medical College, describes the following case (*Chicago Clin. Rev.*, VI, No. 5): A woman of 33 years, complaining of offensive breath, had noticed for five weeks white or grayish spots upon both tonsils. She never had inflammation of the throat, the only annoyance being the offensive breath. The right tonsil had eighteen or twenty little white masses, which appeared to spring from the mucous membrane near the follicles. They were papillary in form, 1 to 5 mm. by 3 to 4 mm. They felt quite hard to touch of the probe, and were firmly attached to the mucous membrane, breaking on attempts to remove them, and leaving behind a portion. There was no disease of the follicles.

In mycosis, the base of the tongue and

the pharynx, as well as the tonsils, are favored places. Delevan found the scrapings in this case contained granular matter, pus, leucocytes, cholesterine, and *Leptothrix buccalis* (attacking mainly the outer layer of the epithelium), but Prof. Hektoen's examination of the masses showed that they resembled horny tissue, and were not a true mycosis. Clinical treatment by gargle, swab, or spray was ineffectual. Nothing but thorough destruction by galvano-cautery effected their permanent removal.

This case may be one of a new condition not well known.

The Toxins of Tuberculosis

M. Sciolla (*Rev. gén. de l'Antisepsie*) has isolated from the bacillus of tuberculosis a particular toxic material by the action of ether upon the glycerin extract.

This substance injected in doses of $\frac{1}{2}$ c.c. in the veins of a rabbit produced violent convulsions, and was fatal in doses of 2 c.c. In guinea-pigs convulsions of a milder degree were produced.

The lethal action of this material is destroyed by a temperature of 100°, but a portion of the material which produces convulsive effects remains unaffected.

The Use of Opium in the Diarrheal Diseases of Children

F. M. Crandall (*Archiv. of Ped.*) offers the following as contra-indications for opium in children:

1. In the early stages of an acute diarrhea, before the intestinal canal is cleansed.
2. When the passages are infrequent and have a bad odor.
3. With a high temperature or cerebral symptoms.

4. When its use is followed by increase of temperature or by more offensive passages.

Per contra, opium is indicated: (1) When the passages are frequent and painful, or (2) large and watery; (3) in dyspeptic diarrhea, with castor-oil or a saline; (4) in late stages, when the passages are small, frequent, and nagging; (5) when much food passes undigested, the bowels acting as soon as food is taken.

Many times diarrhea is a conservative process, and opinion serves but to prevent the elimination of toxic materials from the intestine. When indicated, the dose should be only sufficient to relieve pain and check peristalsis; it should be prescribed separately, in order that it may be given only as often as necessary, the effect of one dose partially subsiding before another is administered, this rarely occurring in less than four hours.

L.

GENERAL SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

Inflated Rubber Cylinder for Circular Suture of the Intestine

Dr. W. S. Halsted, in the *Philadelphia Med. Jour.*, Vol. I, p. 63, finds that the disadvantages of methods of intestinal suture without mechanical aids have been disposed of by the employment of rubber cylinders. The operation is fully figured. The advantages of this cylinder in circular suture of the intestine are given as follows:

1. The vermicular action of the bowel is arrested over the bag, and the stitches can, consequently, be placed at regular and proper intervals.

2. The distended bag unrolls and spreads out to a fine edge the everted raw edge of the intestine and enables the operator to place the stitches with great precision at the desired distance from this edge.

3. If a distended intestine is to be sutured to collapsed intestine (in strangulated hernia, ileus, etc.), or intestine of larger to intestine of smaller lumen (jejunum to ileum, duodenum to esophageal end of the stomach, etc.), the smaller may easily be expanded to fit the larger piece. This is perhaps the most important function of the cylinder.

4. The cylinder takes the place of at least two assistants.

5. It prevents escape of intestinal contents and hence dispenses with the injurious clamps or the fingers of assistants.

6. The entire operation, exclusive of suture of the abdominal wall, can be performed on dogs in five or six minutes, and probably in less time.

7. Very little handling of the intestine itself by the operator is necessary. The tube from bag to syringe is used as a handle to rotate and elevate the parts to be united.

8. The operation could readily be performed without a single assistant.

Chronic Non-suppurative Otitis Media

Dr. S. MacCuen Smith (*Charlotte Med. Jour.*, 1897) says that this disease often progresses without symptoms, and may seriously impair the function of the conducting apparatus before being recognized. The prognosis will be more hopeful if treatment is instituted early. Correct the naso-pharyngeal lesion by local treatment, and re-establish nasal respiration.

If ankylosis and adhesions have developed, make an incision the whole length of the handle of the malleus, introduce

a small knife with cutting edge at right angles to handle, divide the bands of adhesion, insert small hook, grasp handle of malleus high up, and with gentle but firm traction break up ankylosis. Instil liquid petrolatum, and pack with iodoform gauze.

Later massage with Siegle's pneumatic speculum is of the greater importance. Hypodermic injections of pilocarpine are useful. The author formulates the following conclusions:

1. That the best and most permanent results can be obtained from the use of conservative treatment, as outlined above.

2. That as the operative procedure herein suggested is practically without risk, its adoption seems advisable before more formidable operations are resorted to.

3. That the majority of cases without labyrinthine implication can be relieved by tinnitus and vertigo, and greatly improved in hearing power.

4. That chronic cases, with internal ear involvement, do not offer hope for a continued improvement in hearing power, but may frequently be relieved of tinnitus and vertigo.

5. That excision of any part of the conducting apparatus is only justifiable when relief from severe tinnitus and vertigo is the object of treatment, and other measures have failed.

G.

A Case of Subglottic Fibroma, Removed by Tracheotomy and Curetting

At the last annual congress of the American Laryngeal Association (*N. Y. Med. Jour.*, XVI, No. 24) Dr. Farlow reported the following case: The patient, a woman of 37, had noticed four years previously that her respiration had become impeded; a year later a laryngoscopic examination disclosed a subglottic growth. As the dyspnea became very distressing, Dr. Bernays, of St. Louis, performed tracheotomy, and found a soft tumor on the posterior wall of the trachea; but, fearing to make a permanent tracheo-esophageal fistula, he did not attempt to extirpate the tumor. When she came under the author's observation her dyspnea was very marked; at times she felt almost suffocated; there was much wheezing. She had lost about 30 lb., weighing only 90 lb. There was no pain of any kind, and no dysphagia. The voice was not hoarse. A laryngoscopic examination disclosed the following condition: Below the freely moving cords the lumen of the trachea was almost completely filled by a smooth, regular swelling, apparently arising from the posterior part of the trachea, and leaving only a narrow chink anteriorly for the air. From the history of the case the

tumor was considered to be of a non-malignant nature, and extirpation was decided upon. An endo-laryngeal operation was out of the question. Low tracheotomy was performed under cocaine anesthesia, and a tube inserted. The patient was then etherized; the trachea opened above the tube nearly to the cricoid cartilage; gauze was packed around the tube to prevent the blood from getting into the trachea, and the edges of the wound held apart by the fingers or retractors. The growth was seen to begin below the cricoid cartilage and to extend down on the posterior tracheal wall an inch and a half or more. With the sharp curette the firm, dense tissue was gradually removed with but little hemorrhage. The skin was drawn tightly over the trachea and sutured, but the tracheal rings were not. The tube was left in, with a small piece of gauze just about it. In five days the tube was removed, the skin-wound above had healed by first intention, and the opening for the tube soon closed over by granulation. Ten days after the operation the trachea was found quite free. A month later she was much better and gaining flesh. Microscopical examination of the removed tissue showed it to be a fibroma. As to whether the growth will recur or not the author has no opinion to offer. R.

Infecting Corneal Ulcers Treated with Carbolic Acid

According to Dr. Geirsvold (*Lancet*; ref. in *N. Y. Med. Jour.*) infecting ulcers of the cornea may frequently be very successfully treated by touching the surface with a Bowman's probe dipped in pure carbolic acid. Some of his cases were complicated by suppurations of the lachrymal ducts, and he was not obliged to use the thermocautery, curetting, or subconjunctival antiseptic injections.

We have been practicing this method of dealing with infecting ulcers of the cornea for the past two years, and we have as yet to record one failure from this treatment. Some of our cases have included extensive ulceration of the cornea, requiring at times more than one application. The method which we employ is as follows: The affected eye is first thoroughly irrigated with a warm boric-acid solution, or Labarraque's solution, 1 to 40, by means of an undine holding three or four ounces. Then cotton is twisted on both ends of an ordinary toothpick, one end being provided with a moderately large tuft of cotton, the other, however, being very small, just sufficient to hold but one drop of the acid. The small end is dipped into the pure acid, and the ulcerated surface is thoroughly gone over. When this is con-

cluded we wipe the excess off with the tuft of cotton twisted on the other end of the toothpick. Of course it is necessary to previously instil a 4-per-cent. solution in order to avoid any pain. After the ulcer is thus treated it is usually wise to apply a bandage. G.

A Rare Case of Fracture of the Eminentia Capitata of the Right Humerus

According to *Archivio di Ortopedia*, Bastianelli (*La Sett. Medica*, No. 11, 1897) reports a rare case of fracture of the *eminentia capitata*. Only five cases have heretofore been described, one by Hahn and four by Kocker, and all different from this one. The case occurred in a man 35 years old, and the fractured articular condyle was impacted into the interior part of the inferior humeral epiphysis.

After explaining how fracture of the external humeral condyle and of the articular condyle (*eminentia capitata* or *capitulum humeri Kocker*) is produced, he gives the history of his case. Excluding the case of rigidity (incomplete ankylosis) from traumatic arthritis or luxation, he thus summarizes the symptoms of the lesions:

1. Limited movements of flexion and extension, with accentuated pronation during this last movement.

2. An osseous prominence situated inward and downward to the external epicondyle, against which the head of the radius rests during marked flexion.

3. Abnormal mobility of the head of the radius, when the correction of pronation is attempted. During extension the mobility consists in the loosening of the contact with the epicondyle.

4. Abnormal proximity of the tip of the olecranon to the epitrochlea during the fullest extension of the elbow-joint.

5. No alterations in form and anatomical relations in the elbow-joint are present.

The diagnosis was made by exclusion and corroborated by exploratory incision.

The mechanism of production of this fracture is, according to Kocker, the violent stroke from below, which occurs when cases fall on the hand, or where the hand is subjected to strong pressure while the arm is fixed, or if a movement is made while the arm is extended and the capsule distended anteriorly. In the case reported the man fell down with the arm extended in slight adduction. The patient was treated by complete supracondyloid resection of the humerus. After twenty days the constant current was applied with faradic massage, combined with movements of flexion, for two months longer, and after that but once

in a while. After this treatment the man was able to work in the fields, and also to shave himself. In comparing his case with Kocker's four cases, he expresses his opinion on the above subject as follows:

1. There is a fracture of the eminentia capitata or articular condyle of the humerus in persons whose age is above that in which the cartilages of union between the eminentia capitata and humerus are not present.

2. It is possible that the fractured eminentia capitata prevents free movements of the articulation by establishing adhesion with some part of the joint—i. e., the anterior surface of the inferior humeral epiphysis.

3. The existence of pronation of the forearm, after a trauma on the elbow-joint, with disturbed flexion and extension may be a symptom of fracture of the eminentia capitata, but only when the epicondyle is felt in the normal position and a round body, having the form and volume of a condyle, is found in an abnormal place.

4. The violent action of the head of the radius on the eminentia capitata while the arm is extended acts as a contributing cause in the production of this circumscribed fracture.

W.

Complete Blindness Due to Acute Poisoning from Over-use of Jamaica Ginger; Recovery, Followed by Toxic Amblyopia

The following interesting case is reported by Archibald G. Thompson (*Phila. Med. and Surg. Rep.*, 1897): The patient, a man 32 years of age, gave a negative history except that from his occupation as a sailor he would now and then go off on a spree for a few days, two or three times in a year. He had been moderate in the use of tobacco, smoking weekly about four ounces in a pipe. His eyesight had always been good until, when he came ashore from a cruise and with a party of friends, being unable to procure whisky, he became intoxicated with Jamaica ginger of the ordinary commercial kind. This was taken with water, as whisky is. The man remained drunk for two days, and estimated that during that time he took about a quart and a half of the ginger. On the following day the man's feelings were similar to those that ordinarily follow an alcoholic debauch, though greatly intensified. Among other things he suffered from headache, nausea, and vomiting.

On the evening of the next day, the fourth from the first taking of the ginger, while lighting a lamp in the cabin, the man noticed everything to be hazy and vision failing, together with some photophobia.

By the next morning he could not see a lighted match held directly before his eyes,

but had peripheral vision enough for him to grope around. By the following morning, however, light-perception had absolutely disappeared, both central and peripheral, and blindness was complete. This condition lasted for seven days, when vision began gradually to return, first in the periphery of the field, the man finally being able to read large print with great difficulty. The time that elapsed between the period of complete blindness and the recovery of vision the patient estimated at about four weeks. Matters remained thus stationary for three weeks, when vision again began to fail very slowly until the present condition was reached, three months and a half after taking the Jamaica ginger.

V = R. Fingers at 1 meter.
L. 1-100. eccentric.

On ophthalmoscopic examination the media were found to be quite clear. The discs were exceedingly pale, the capillaries being almost entirely absent. The portion of the discs occupied by the papulo-macular bundle of fibers (forming the lower and outer quadrant) was completely atrophied and greenish-white in color.

The fundus of each eye was otherwise normal. There was a well-marked physiological cup and the absence of lymph from the vessels, showing the atrophy to be primary and not secondary to a previous papillitis.

There was no evidence of cerebral or spinal trouble (no locomotor ataxia or disseminated sclerosis) or hysteria.

The patient stated that one of his friends, who accompanied him on his debauch, had also marked disturbance of vision, though in less degree. Under treatment this entirely disappeared.

G.

The Use of Emmerich-Scholl's Cancer Serum and Formol in Tumors of the Eye-ball

Dr. Nied (of Bochum) presented to the Heidelberg Ophthalmological Society this method of dealing with neoplastic tumors of the eye which could not be operated upon (*Recueil d'Ophth.*, No. 3, 1897). All practitioners have seen tumors of the eye which have reached a degree of advanced development too great to admit of complete extirpation, or accompanied by metastases in the neighboring organs whose removal would not prevent a more or less prompt recurrence, such as glioma in a child and sarcoma, and especially melanosisarcoma in the adult and aged.

Quite early, before metastasis, the sanguine operation may give a good result. But, often all efforts are vain and the fatal-

ity after operation is discouraging. Some years ago the author learned of the treatment of these tumors by cancerous serum, and employed it in a few cases.

Cure of sarcoma by intercurrent erysipelas is not a rarity in medical literature; and this author recalls having seen a lymphosarcoma of the neck treated in this way by Prof. Bush, of Bonn. Complete removal was impossible. Bush made a deep incision into it and had the patient lie in the same bed with an erysipelatous patient. In other cases he covered the tumor with wadding used in dressing an erysipelatous case. He even kept these pieces in a piece of wadding in a case for thus treating these tumors. Unfortunately he has not published his results.

In 1885 (*Central. f. Augenheilk.*) the author established that in two cases of plastic and serous irido-choroiditis, a spontaneous cure had taken place in three weeks from an intercurrent erysipelas, in one of which it had been permanent. In three cases of other physicians, only one gave good result, the other two cases having succumbed to meningitis.

The cancer-serum of Emmerich-Scholl is a filtered culture of streptococcus of a viscous limpidity, clear and slightly opalescent. It is injected into the neighborhood of the tumor or into the tumor itself, in doses increasing gradually from 1 to 12 c.c. It must never be made into a blood-vessel. The effect is an erysipelatous redness of the skin at the puncture, with pain and transient swelling. With care fever and other signs of infection are avoided. The central portion of the tumor softens, its cells break down and are absorbed, the tumor ceases to grow, and even diminishes. These researches have been duplicated by Petersen, but only with negative results.

In the first of the author's two cases a melano-sarcoma had invaded the eye and the soft tissues of the orbit. The tumor was removed as completely as possible, and there was no trace of lymphatic metastasis. The return took place after eight months in the bottom of the orbit: the orbital walls were soon invaded. In lieu of a second operation Nied made several injections of cancer serum. Slight amelioration till after the sixth, when the tumor rapidly increased and spread to the liver, proving fatal in two months.

The second case was that of a gliosarcoma of the retina in a child $2\frac{1}{2}$ years old, affecting the optic nerve and causing glaucoma. Nied enucleated, three months later, a tumor rapidly developed from the stump. Fourteen injections of serum of 10 c.c., one to three days apart, were made,

which were increased to 15 c.c. after the third, when the growth remained stationary for four weeks. Then it increased in size and projected from the orbit. Remembering Prof. Lobker's mention, at the Medical Society of Bochum, of the use of a 40-per-cent. solution of formol in a similar case at the "Bergmannsheil" hospital, with rapid diminution of the tumor, Nied applied this: the tumor lessened, ulcers disappeared and hemorrhages became fewer. The growth stopped, but the patient died. Nevertheless, Nied hopes for good results in the use of formol in such cases. H.

Fracture of the Shaft of the Femur in Children under Six Years, Treated by Van Arsdale's Triangular Splint

A. E. Gallant (*Virg. Med. Semi-Monthly*) describes the "triangular splint" of Van Arsdale, which is made of either thick binder's or straw cardboard, and adjusted in the following way:

1. Measure the length of the uninjured thigh, from the middle of the groin to the end of the femur.

2. Outline upon the cardboard a figure resembling two spades of cards, united at their points, the length of each of the four sections to be equal to the length of the child's thigh. The widest parts of the spades to be the same number of inches as the length of the thigh. Cut outline portion with knife or scissors.

3. Moisten cardboard on one side and fold on the dotted lines, lapping the handles of the spades, so as to form a triangle, and fasten them together by two strips of rubber adhesive plaster.

4. Cover the abdomen and thigh with cotton; secure cotton in position by a gauze bandage.

5. Flex the thigh to a right angle and insert the triangle, so that one flexed portion embraces the thigh, and the other lies upon the abdomen.

6. Secure the splint by muslin bandages carried through the splint around the body, and then around the thigh. To prevent lateral motion, take reverse of figure-of-eight turns at the upper angle around the body, and at the lower angle around the knee.

7. To fix the splint and prevent removal, encircle body and thigh with starch or crinolene bandages.

While one person can adjust the splint, it is better to have an assistant keep the thigh flexed against the splint, and at the same time make extension on the femur, while the splint is being secured in place. In a child with a prominent abdomen, the upper limb, made by overlapping the han-

dles, can be shortened, so as to increase the flexion of the thigh, and throw the body-angle further forward, and allow the child to sit down with greater ease and comfort. The leg should be bandaged from the toes to the knee, to prevent any tendency to congestion, but not so as to prevent free motion. By placing the finger on the pulse at the ankle, the surgeon can convince himself that there is no undue pressure of the splint in the groin.

At the end of each week the child should be examined, and if the splint has become loosened it should be adjusted, and finally taken off at the end of the third week. To remove stiffness from disease and restore muscular tone, friction should be applied morning and night to the limb, the strokes being always directed toward the trunk, never up and down. There should be no appreciable shortening. The advantages of this splint are:

1. Overlapping is prevented by the flexed position of the thigh, relaxing the muscles.

2. The fragments are held in apposition, owing to the nice adjustment of the splint, which embraces the thigh and maintains complete immobilization in whatever position the child may be placed.

3. Frequent readjustment is unnecessary, as the dressings are not soiled by the excretions, nor are dermatitis and excoriations met with.

4. Complications due to confinement in bed in the dorsal position, such as hypostatic pneumonia and vulvo-vaginitis, are avoided, and liability to concurrent diseases diminished.

5. Loss of flesh and strength does not occur, as the child is well and happy; it can nurse at the breast in the usual position, sit on a chair, play on the floor, and even learn to crawl about; may sleep on either side; in fact, live a perfectly natural life, with one exception—inability to walk.

6. Under these conditions, rapid, firm consolidation is secured, in three weeks or less, without practical shortening, and non-union will be rarely, if ever, met with.

In the youngest cases which the author has had fracture occurred during birth, while the oldest on which this splint was used was $5\frac{1}{2}$ years. As to angle-formation, in young children an angle or bending of the limb with anterior convexity is observed, while in older children an external lateral convexity or angle-formation takes place. In all the cases treated, thirty-three in number, the fracture was located at or above the middle of the shaft. A cure has in each case resulted in from two to three weeks. The direction of the fracture was most often transverse, or nearly so. With appropriate

treatment, adapted to the age of the child, practical shortening can be prevented. L.

Massage in the Treatment of Recent Fractures

William H. Bennett (*The Lancet*, No. 3884, p. 359) says that the results of the treatment of massage in recent fractures seem to him to be likely to be better than those obtainable by any other method with which he is acquainted. By this method the matting of the soft parts is impossible; the tendons are prevented from becoming adherent; the muscles do not waste; the joints are kept supple, and nerves cannot become implicated in adhesions. It therefore follows that upon the patient resuming the use of the damaged limb the joints are as freely movable as if no fracture had occurred, the muscles are well developed and comparatively strong, and the neuralgic pain so often met with under ordinary circumstances is wanting. The method comprises three stages:

1. Gentle rubbing in an upward direction over the fracture, with a view to soothing the patient, the relief of muscular spasm and the rapid absorption of extravasated blood.

2. Passive movements of the joints above and below the fracture (thus effecting "internal massage"), by which all matting of the soft parts at the seat of fracture and about the joints is prevented.

3. The development of wasted muscles by the ordinary massage process.

To describe the details of the operation an ordinary case of fracture of both bones is cited. After reduction of any displacement of the fractures the limb is placed upon a back-splint, reaching above the knee, with a foot-piece, to which the foot is fixed by bandage, in the usual way, care being taken to include no more of the leg above the ankle than is absolutely necessary; a second bandage or piece of webbing fixes the limb to the splint just below or at the knee. As much as possible of the area of the fracture should be left exposed. Rubbing by a gentle, smoothing movement upward from the ankle is now made by the flat of the hand, grasping as much of the circumference of the limb as is possible. However tender the parts may be no pain is caused, but a soothing effect is rapidly produced. Ten minutes of this rubbing is sufficient at the first application. If at the end of this time the patient is fairly comfortable the toes are taken together between the operator's thumb and fingers and very gently extended upon the metatarsal bones two or three times. At the end of the "sitting"

side-splints or sand-bags are used in addition to the back-splint for the better steadying of the fracture. This proceeding is repeated daily, or oftener if practicable, for from four to seven days, the time occupied by each massage being gradually increased to twenty minutes or more. At the end of this time if the fracture is in good condition and the fragments show no sign of altering their position the bandages are removed from the foot and ankle, leaving the limb exposed and lying on the splint. The smooth rubbing already described is then applied over the foot, ankle, and leg for about ten minutes, and then without removing the limb from the splint the operator gently flexes the ankle two or three times, or more, on the leg with one hand, while he steadies the fracture with the other, the bandages being afterward replaced as before. This is repeated daily for three or four days, after which the limb at each sitting is gently lifted off the splint on to a flat pillow; the rubbing is now more thoroughly done and the passive movements of the ankle more freely carried out, the fracture being still supported with one hand of the operator; at the end of each sitting passive movement of the knee is now added. The passive movement of the ankle must be commenced very gently, as some slight pain may be caused by "the internal massage," resulting from the working of the tendons and muscles in immediate relation with the fracture itself. At the end of another week the union is usually firm enough to allow of all the manipulations of ordinary massage, and the patient may be encouraged to move the ankle spontaneously as freely as possible, the fracture being fixed with some form of short splint. The complete massage should be continued until the union has fairly consolidated.

Errors of Diagnosis in Orthopedic Practice

Dr. DeForest Willard (*Philadelphia Med. Jour.*, Vol. I, p. 163) says that one of the most common errors in diagnosis consists in ascribing to "rheumatism" the inception of most serious joint-disease. In rheumatism the symptoms are acute and active. There are sudden onset, local heat, rise of temperature, visible fever, evident swelling, and usually more than one joint involved. In chronic tuberculous cases the onset is slow, and there is entire absence of the signs mentioned. He concludes with the following rules for practice:

1. Discard the idea of rheumatism of a single joint in children (especially in the hip) unless it is positively proven by acute symptoms. Tuberculous disease is much more probable.

2. Any child may have local tuberculosis of a joint, no matter what its ancestry; heredity signifies only degree of resistance.

3. Do not attribute to "habit" a persistent limp. An inflammatory or paralytic cause is more probable.

4. All persistently fretful infants (especially those that cry when moved) should be carefully examined for evidences of spinal spondylitis. Older children, with stubborn irritation of the lung, stomach or intestine, should also be critically examined. Early diagnosis and treatment will accomplish excellent results.

5. In lateral curvature of the spine the indiscriminate and unskilful use of mechanical appliances does harm, while to neglect these means of fixation in spinal caries is ruinous.

6. To "let alone" a curable congenital bone-deformity after the first week of life is to lose the golden opportunity for cure.

Movable Kidney

Dr. A. H. Cordier (*Kansas Med. Jour.*, Vol. IX, 31) reaches the following conclusions:

1. A movable kidney often produces a dilated stomach, with all the accompanying symptoms of a disease of the latter.

2. It is a fruitful source of gall-stones, because of the production by the pedicle of a partial obstruction of the common duct.

3. The bending of the ureter often gives rise to a hydro-nephrosis. This, in turn, is sometimes converted into a pyo-nephrosis.

4. It may produce death by a complete strangulation, by a torsion of the vessels and ureter.

5. By dragging on the abdominal aorta, and kinking of the vena cava, a condition stimulating an aneurism of these vessels may be produced.

6. Pain of a referred character to the region of distribution of the spinal nerves is often induced by a movable kidney's disturbance of the abdominal brain.

7. A general nerve-exhaustion (neurasthenia) is frequently induced by this condition, interfering with digestion, assimilation and elimination.

8. Nephrorrhaphy is a safe and effective surgical procedure.

9. All cases of movable kidney, if accompanied by symptoms pointing to the kidney as their source, should be operated upon.

10. In summing up the local and remote results of this now often recognized condition, the author thinks the correctness of the deduction has been often demonstrated by the disappearance of each and every symptom after a restoration and retention of the kidney to its normal position. R.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL M.D., HERMAN B. SHEFFIELD, M.D.

Indications for and Technique of Hysterectomy

Dr. John Homans, of Boston (*Am. Jour. Med. Sci.*, No. 305) advises removal of the uterus:

1. For hemorrhage, recurrent, without fibroid or malignant disease, where curettage has been repeated and usual remedies exhibited without success permanently.

2. For malignant disease, where operation does no injury to bowels or bladder.

3. (a) for fibroids causing discomfort; (b) threatening death by hemorrhage; (c) becoming too burdensome for comfortable life; (d) for anticipation of effects of cancerous degeneration; (e) for prevention of dangerous pressure on abdominal organs; (f) for prevention of cystic degeneration or edema of one or both extremities, with sequelæ of same; or the effects of torsion of pedicle.

4. Uncontrollable, complete prolapse after failure of less radical means.

5. Incurable chronic inversion.

6. Infected cases, where removal of diseased tubes has not cured.

The idea of the French is advanced that the uterus is the infecting organ, and no cure is possible until it is removed.

7. To cure puerperal sepsis where the diagnosis is probably certain.

Cases are cited illustrating the above, and Dr. Homans' technique is as follows:

Asepsis and sterilization are presupposed.

The field of operation, including both the abdomen and vagina, is cleansed and prepared, as well as the uterus. The patient is enveloped in a warm flannel suit, for warmth and lessening of shock, and a subcutaneous injection of morphia, $\frac{1}{2}$ grn., at 1-120, is given. This diminishes bronchial secretion and aids anesthesia. For simplest kind of one of the simplest class, viz.: Class 1. Vaginal route. Lithotomy position. Hold the legs up by any method preferred, and make a circular incision around the os completely through the mucous membrane and also two incisions on either side parallel with the axis of the organ and about $\frac{1}{2}$ inch in length. Find position of bladder-wall by sound passed into the urethra and felt along vaginal wall. While strong traction is made on os and neck, the bladder is peeled off from the uterus along the line of cleavage, which normally is readily found. Open with scissors or forceps

through the peritoneum of the anterior cul-de-sac into the abdomen and pass a retractor of a width insufficient to draw the ureters into the wound. This carefully held by an assistant keeps the bladder out of the way and the intestines from descending. Open with more freedom into the posterior cul-de-sac and enlarge with the fingers. Insert gauze or sponge with end protruding or secured between uterus and rectum. Anteverte the fundus and pull down beneath the bladder. A strong clamp is put on the left broad ligament. If ovaries are to be removed it is easier to pull them down before clamping. Proceed the same way with the right side and cut the uterus away between the clamps. Leave enough tissue on the uterine side to prevent the clamps from slipping from the broad ligaments and tie any vessels that demand it as the operation proceeds.

In Class 2 the procedure is the same, excepting that all infected tissue should be removed freely from the vaginal wall and from the broad ligaments as far as possible. Remove ovaries also. The abdominal is the preferred route in malignant cases. Some use the ureteral catheter as a guide to location of ureters. Remove all glands in neighborhood of uterus. Stitch peritoneum lightly in abdominal section. No stitches need to be taken in vaginal route. The ovarian arteries are tied outside the ovaries in each broad ligament, and the uterine arteries on each side the cervix.

I.

Studies in Gynecology

From observations of cases in the Maternity connected with the Woman's Hospital of Philadelphia, Anna M. Fullerton (*Virg. Med. Semi-Monthly*, '97) shows, among the perverted phenomena associated with childbirth, the following: During pregnancy: first, a tendency to the early loss of the product of conception, due to diseased conditions of the endometrium; second, the prolongation of the period of gestation when carried to full term, owing to the atonic condition of the uterine tissues and to the relaxation of the abdominal walls, which, for this reason, submit more readily to over-distension. During labor: first, prolonged labor, the result of exhaustion of the physical forces; second, dystokia, the result of mechanical hindrance to the progress of labor produced by undue size and ossification of the fetal head—a condition attributable to the physical inactivity of civilized women, particularly among the higher classes. During the lying-in: first, the lengthening of the time required for the process of involution

and frequent subinvolution, also the result of atony; second, the imperfect performance of the function of lactation; third, the effect of what we may term subinvolution of the abdominal walls, leaving them in a flaccid state, after the distension to which they have been subjected during pregnancy; and the change in abdominal pressure thus induced must be regarded as of great importance in considering the causes for descent of the pelvic organs. About 14 per cent. of the patients had contracted pelvis. Including among abnormal pelvis those of faulty inclination, the number reaches fully 20 per cent. This was in part probably due to the large number of foreigners delivered in the obstetric wards. Generally, contracted pelvis were found to almost double the number of simple flat pelvis. The average contraction was not of a high grade. The induction of premature labor was most satisfactory in its results, for both mother and child. Fetal mortality from all causes was 4 3-10 per cent. About 19 per cent. of all the cases delivered required operative interference at full term. L.

Methods of Instruction in Gynecology

Dr. J. R. Goffe (*Am. Gyn. and Obst. Jour.*) states that out of the great difficulties heretofore of instructing students how to make a diagnosis in gynecological cases, he has evolved a definite plan of presenting the subject, students thus learning to diagnose pelvic conditions very promptly. His plan is to present the subject in the progressive sequence in which a man in making a diagnosis gets his information. The positions of the uterus are classified in accordance with the positions of the cervix: first, the cervix in normal position, or perpendicular to the axis of the vagina; second, cervix in (parallel to) the axis of the vagina, or pathological position. In the latter instance the fundus will be found in one of three positions; anteflexed, retroverted, or retroflexed, these covering the whole subject of positions of the uterus. As to the question of normal position, the student is taught that the uterus is naturally in a state of unstable equilibrium, the normal position of the fundus being anywhere between the symphysis pubis and the promontory of the sacrum, this being almost entirely dependent upon the degree of fullness of the bladder. The hand being placed on the abdominal wall, just above the symphysis, if the uterus be lifted by the finger in the vagina and the fundus made to strike against the anterior wall, the fundus is in normal position. If it be below the promontory of the sacrum, it is either retroverted or retroflexed. In regard to recog-

nizing these various positions, if the cervix lies in the axis of the vagina one of three positions must be found. If the finger be kept in contact with the posterior surface of the cervix and pushed straight back into Douglas' pouch, and the finger remains in contact with uterine tissue as far as the finger can reach, the probabilities are that there is a retrodisplacement. On the contrary, if uterine tissue does not extend to an extent equivalent to the normal length of the uterus, the probabilities are that the uterus is in a state of anteflexion. Now the stage of proceedings has arrived when bimanual manipulation must be resorted to. In this procedure one hand must be held perfectly quiet and used simply to steady the parts. The fundus uteri is the guide-post to everything else in the pelvis. The first and primary thing is to locate the fundus, and if that cannot be done, it is useless to expect the examiner to locate the appendages; indeed, that subject is not allowed to be mentioned until the fundus is located. When a student has acquired the faculty of palpating the uterus readily, it is a simple matter to extend this accomplishment to a recognition of the ovaries and tubes. In the discussion of the paper, Dr. W. E. Porter thought one of the most important features in teaching in regard to the condition of the pelvis is in impressing upon the student the importance of going well behind the body of the uterus and the folds of the broad ligament. Ordinarily they will pass in front of the broad ligament and press against the bladder, having their hands entirely anterior to the uterus and appendages. Dr. Wylie believed the first thing to do is to develop and educate properly the sense of touch, as then it is comparatively easy to make a diagnosis. What he found in students and graduates was an absence of the educated sense of touch. L.

Hysterectomy after Previous Removal of the Uterine Appendages

The experience of Dr. C. P. Noble (*Am. Gyn. and Obstet. Jour.*) is based upon six cases operated upon for the removal of the uterus, in which the appendages had been previously removed. The first case was one called "chronic ovaritis," the patient also giving a history of two attacks of peritonitis. The operation for removal of the appendages gave no evidence of a previous peritonitis, the condition being one of cirrhotic ovaries. After this operation she had suppression of urine, acute nephritis, and was very ill for a time; after the hysterectomy, she had the same thing over again, and again recovered. In the opinion of the

author the patient's condition from the very first was one of arterial lesions preceding Bright's disease, and that she never had anything the matter with her ovaries. (The author fails to state the reasons for a hysterectomy in this instance.) The second patient was of the same class. The cervix and perineum had been sewed up, and though having a painful left ovary she was advised to let it alone. However, the ovary continuing to pain her, she consulted another surgeon, who removed both of her ovaries, the pain continuing, nevertheless, the same as before. Returning subsequently to Dr. Noble, and complaining bitterly of pain, he removed the uterus; the pain, however, was not relieved. The hysterectomy in this case was complicated by the presence of a hernia, the result of the first operation, which was closed up at the time of the removal of the uterus. After the latter operation the urine was full of casts, although previously normal. In neither one of these cases was the patient relieved by operation. In cases three and four, cysts formed after removal of the ovaries. Case three had double ovarian tumors, the cyst forming subsequently in the left broad-ligament, supposedly par-ovarian. Dr. N. endeavored to obliterate the cyst by vaginal incision and gauze drainage, without doing any good. The uterus was subsequently removed as a matter of technique, the left broad ligament being cleaned out the better, with the result that the patient has left a painful broad ligament, without, however, any further cyst-formation.

In case four, the delivery of the appendages was difficult because of dense adhesions, the operation being one in which the ovary was not cleanly removed, the ovary splitting in pulling it up, some ovarian tissue undoubtedly remaining. Subsequently, a cyst having formed in the meantime, the latter was removed (with the uterus?), the patient dying on the table, from ether in the opinion of the operator, the patient's breathing suddenly stopping, though the respiration and pulse were good but a moment before. Cases five and six were operated upon for extensive intestinal adhesions. As to what has been accomplished in these classes of cases, the author observes:

In the first class the operations did no good whatever; in the second class one unfortunately died on the table from ether, the result not being satisfactory in the other. In the third class of cases, in one the operations did no good whatever, while in the other whatever good was accomplished was due to the fact that the bowel adhesions were

separated. For a number of years the author has systematically done hysterectomy instead of removing the ovaries and tubes, but not for the reason that if left, the uterus would, *per se*, give rise to trouble. The removal of the uterus with the ovaries and tubes has been done because deemed to be a simpler and safer operation, enabling him to do without drainage; by taking out the uterus the blood-supply is better controlled and the torn adhesions do not leak so much. The author believes that there is no question that the convalescence from hysterectomy is distinctly better than that from double oöphoro-salpingectomy. There are fewer complications, and patients make better recoveries and are sooner restored to health on the average. The reason is there is no drainage in hysterectomy, there are fewer infections from without, and fewer infected pedicles. Furthermore, there are practically no ligature sinuses, which in the old operation, while not common, were met with in a definite percentage. The author has been unable to observe any difference in the vaso-motor phenomena after salpingo-oöphorectomy and after hysterectomy, though it has been claimed by many that such was much slighter after the latter.

L.

A Study of One Hundred Cases of Atresia and Stenosis Vaginalis in Labor

After a careful consideration of all the cases, and especially the fatal ones, Dr. J. J. E. Maher (*Virg. Med. Semi-Monthly*) presents a few general conclusions:

1. That from 70 to 80 per cent. of all the cases were found to be in the middle third, or at the orifice of the vagina, at which point a predisposing condition may be found in an increase of muscular tonus.

2. That the small size of the opening does not necessarily jeopardize the case, inasmuch as none of the complete atresia proved fatal, and among the fatal cases four had openings large enough for the finger to pass.

3. That the resistance can be overcome in every case, as evidenced by the fact that only two of the ten cases termed cartilaginous proved fatal.

4. That the thickness which, in fifteen cases, was stated from 20 mm. to that of the entire length of the vagina, is not an insuperable barrier, for only two of such dimensions were fatal. Of the other two fatal cases wherein measurement is given, the thickness in one was 12 mm., and the other was characterized as thin and rigid.

5. That there is practically no difference in the character of the structure, site, location of opening, central or otherwise, resist-

ance, or thickness, between the congenital or post-partum cases, which amount to 87 per cent. of the whole.

6. That the complications should not necessarily have been fatal, except possibly in two cases—that of contracted pelvis with shoulder presentation, and one of the twin cases.

7. That the various methods of treatment applied, both to the obstruction and the delivery, do not make a bad showing, when we remember that many of these cases were in labor for days before interference was attempted or allowed.

8. That the one grave error that pervaded nearly all these cases, and readily accounts for so many decomposed children, so many nearly exhausted women, and so many ruptures of the uterus and vagina, was a misconceived idea of the powers of nature—a misguided judgment in the plan of expectancy in the face of an unnatural condition which withheld the proper aid until the patient was so far exhausted that little seemed to be hoped for on this side of the grave. To conclude, it must not be forgotten that in the three cases of atresia and stenosis vaginalis which the author met with, there was always to be demonstrated an inflammatory condition of the mucosa behind the barrier. This fact was not mentioned in any of the cases found in literature; yet it would easily account for the remarkable putrescence observed in many of the cases, that was so mysterious and unexplained in its occurrence. In these days of anesthetics, asepsis, and antisepsis, one is impelled to believe that the proper course to pursue is to obliterate the obstruction as soon as discovered in labor, or before it. If labor has begun, terminate it as speedily as possible, in the most feasible manner.

L.

Tubular Drainage through the Vagina for Chronic Cystitis, with Report of Cases

N. G. Bozeman (*Am. Gyn. and Obstet. Jour.*) has opened the bladder thirteen times in well-selected cases, and has followed them up closely, perfecting in every instance the drainage, and he has sufficient reasons to believe that the patients have been relieved of the symptoms, many purely functional, for which the operation was done. The cystitis that existed in five of the cases has been cured. One of these cases recovered from a co-existing pyelitis, while another suffering from pyelitis and pyonephrosis was simply benefited because of the patient deferring operation until it was too late. The latter case taught the au-

thor that early operation for cystitis, with drainage of the bladder, diminishes the probability of extension of the inflammation to the ureters and the pelvis of the kidney, for the patient had been treated for an irritable bladder and slight cystitis only six months previous to her entering the hospital. The case of pyelitis, which was cured, was very much emaciated when first seen, the temperature ranging as high as 104° and 105°, with chills. The urine was loaded with pus also. Right colpo-ureterocystotomy was performed for her relief, and the ureter exposed, out of which pus was seen to flow with the urine. A small flexible catheter was passed into the pelvis of the kidney, which was washed out with a bi-chloride solution 1 to 20,000. This was repeated several times during the next two or three weeks, and continuous irrigation of the bladder and vagina kept up until the wound in the bladder had cicatrized, when a vesico-vaginal drainage-support was introduced. She improved steadily from the first, and although she had several relapses during the eighteen months following, the bladder seemed healthy when last seen, the fistula closed and the cystitis cured. The operation for making an opening into the bladder the author performs according to the practice of his father. The patient is placed in the supported knee-chest position, and the vesico-vaginal septum is distended with Bozeman's dilating speculum. After filling the bladder with a boracic-acid solution a counter-pressure loop is passed through the urethra and pressed up against the bladder-wall, which is then completely pierced through with a barbed spear or tenaculum. A crescentic incision is made with a sharp-pointed knife; this is continued with scissors around the spear or tenaculum in a complete circle. The mucous membrane of the bladder is approximated with catgut to that of the vagina to control bleeding. When this is done the circular aperture should easily admit the index finger. A perforated drainage-tube, made self-retaining by means of a stiff wire, is introduced in the manner of a pessary into the vagina, the two ends extending out for two or three inches. When the patient is put to bed they are connected with the irrigator, and a current of air and water is passed through more or less constantly until the wound has cicatrized. The objections urged to an artificial vesico-vaginal fistula for drainage are three, which the author attempts to answer:

1. The tendency for the opening to close. When a circular opening is made in the manner previously described it is impossible for it to close. It may contract to a small

ize, when one or two incisions may be made and dilated by the finger. The drainage-instrument tends to keep it patulous.

2. The discomfort caused by the involuntary escape of the urine. The use of Boze-man's drainage-support obviates this. Con-rivances of more or less crude construction have been used for the purpose, but the au-thor is convinced that after a trial of more than ten years it is based on true scientific principles and is most efficient.

3. The difficulty of closing the fistula when it becomes necessary. The experi-ence with Boze-man's button-suture opera-tion for fistula in thirteen cases operated upon has led him not to dread the ultimate result. On the thirteen fistulas the author has operated sixteen times, closing ten of them—eight at the first operation; three only have been operated on the second time, resulting in two closures. The classes of cases have been varied, some offering more than usual difficulties. Five were vesico-vaginal, four urethro-vesico-vaginal, three uretero-vesico-vaginal, and one a utero-vesico-vaginal fistula. L.

strual blood. The Fallopian tube was nor-mal for three-quarters of an inch from the uterus, when it became lost in the walls of the broad ligament, there being no trace of the fimbriated extremity. Uterus but two inches long and stenosed. L.

Notes on Some of the Symptoms of the Menopause

G. H. Mallet (*Am. Gyn. and Obstet. Jour.*) does not attempt to enumerate the many disorders of the nervous, circulatory, or digestive systems, skin-eruptions, etc., con-fining his observations to those symptoms of greatest importance—hemorrhage and leucorrheal discharge, the latter in many cases causing vaginitis and pruritus. It is a popular belief that the monthly period may be more profuse and continue for several days longer than formerly, and may even appear between times, and that leu-corrhea at this time is of no importance, that all will be well when the change of life is completed. This is often a fatal error. The rule should be that in every case where a woman during the menopause loses an unusual quantity of blood a local examina-tion should be made, and with rare excep-tions, the cause will be found. To deter-mine what is the normal amount, a careful study of the previous history of each in-dividual case should be made. Over six days of a free-flow should awaken suspicion, and, if repeated, should demand an exam-ination—as should a flow that recurs in twenty-one days, when the interval was formerly longer. One of the most import-ant symptoms of the local pathological conditions, is that of a slight hemorrhage following coition or the use of the vaginal syringe. In many cases of carcinoma this was the first symptom observed, and in one case the only suspicious symptom. A pro-fuse leucorrhea should not be looked upon as physiological, until a local examination has shown that it is not dependent upon a local lesion; for this discharge may indicate an inflammation of the endometrium, which, if neglected, may become something more serious. Discharges of a watery con-sistency should make one suspicious of car-cinoma. Irregularity of menstruation con-tinuing over three years is also a suspicious sign, the local lesion found otherwise in-dicating either a fibroid, polypus, retro-version, an endometritis, or appendagial in-flammation. In seeking local causes for the symptoms that occur during the meno-pause, the size of the uterus has been the most valuable guide. Brief mention is also made of those troublesome and distressing

Vicarious Menstruation by the Bladder

Dr. Mass, *Therap. Woch.* (Nov. 28, 1897) reports the case of a young woman who began to menstruate by the bladder about eight months after the entire removal of the uterus and annexa. Between the menses no blood could be seen in the urine. S.

Retained Menstrual Blood in the Broad Ligament

Dr. L. G. Baldwin, before the Women's Hospital Society (*Am. Gyn. and Obstet. Jour.*), reported a case of the above. The patient, aged 24, never pregnant, had suf-fered from severe dysmenorrhea all her life, the flow being always scanty. For three weeks she had been obliged to remain in bed, pain being most agonizing in the lower abdomen and right side, of an interrupted character. For the two months just pre-vious she had not menstruated at all, and there had been no bloody discharge accom-panying the paroxysm of pain. Examina-tion revealed a mass filling the abdomen to the umbilicus, fluctuating and very tender on manipulation; the uterus was in front and to the left; temperature 102°; pulse 128. No diagnosis was made. Upon abdominal section several days later the tumor was found to be in the right broad ligament. Fifty ounces of almost black, thick yet fluid blood was withdrawn by aspiration. There were no clots. The condition then sug-gested itself as being one of retained men-

symptoms of the menopause dependent upon vaso-motor disturbances; flushes, sensations of heat, accompanied by irregularity of the heart and palpitation, fullness of the head, pricking sensations, etc., were found more pronounced in those patients whose menopause had followed operative procedure.

L.

The Effects of Hereditary Syphilis Upon the Placenta, Cord, Fetus, and Child

In the opinion of J. Dougal Bissell (*Am. Gyn. and Obstet. Jour.*) it is to the obstetrician that the syphilographer must look for many of the facts serviceable in the solution of the various problems arising from the complex subject—hereditary syphilis. Observations by the author are recorded in detail, in six cases. In the vast majority of cases he believes that the cause of death of syphilitic children, in utero, is due to a diseased condition of the placenta or cord rather than to the breeding of the syphilitic virus in the fluid of the fetus itself. Hutchinson has also observed that if this be not so, it is exceedingly difficult to explain why the majority of syphilitic infants should be born plump and well-nourished, and remain a month or so without symptoms, while others, on the contrary, perish at, it may be, an early period of intrauterine life. Of the six cases reported, three were born dead and macerated, and in each there was positive proof of fatal interference of the blood-supply to the fetus. In the cases born alive, no evidence of disease was appreciable in either the placenta or cord. In the specimen shown, secured from the first case, the vessels of the cord are occluded for about three inches by a deposit evidently the result of inherited syphilis. In the third case the placenta presented a condition commonly known as cheesy degeneration, thick, yellowish in color, and very friable, the disease being situated in the villi, transforming the placenta into a non-functionary organ. There was also at the junction of the cord with the abdomen a want of development in the cord itself. The vessels at this point were open, but were not sufficiently large to allow the requisite amount of blood to pass to and from, which condition was, undoubtedly, an active factor in the death of the fetus. Hydromania, a condition often found in and somewhat characteristic of syphilitic pregnancy, existed in the fourth case, and was evidently the result of interference in the fetal circulation occasioned by the diseased placenta. The third, fourth, and fifth cases were born of the same mother, who was infected by the first husband. In the third case, the fetus died at about five and a half months;

in the fourth case, the fetus was carried eight months, its father being the second husband, who was in perfect health. The diseases of the placenta, in these cases, were much the same in appearance. With regard to the fourth case, the question might well be asked: Would the fetus have survived had labor been induced at about the seventh month, the mother having then felt life? The child was large and well-developed; the only evidence of its having died previous to labor was that the cuticle could be easily removed. Would it then be justifiable, in syphilitic cases, where hydromania exists to a marked degree, to induce the labor when the age of viability has been reached? This question would have been seriously considered if her third pregnancy had presented the same condition, but the history of this pregnancy was normal. The sixth case is one not infrequently met with, and is typical of that class of cases where the mother seems to be a "protected victim." Although she nurses her child, there have as yet appeared no signs of infection. The author states that his personal experience is far too limited to justify him in assuming the position of an advocate, but all authorities are agreed as to the manner of transmission when both parents are diseased, or when the mother alone is diseased, but some differences of opinion seem to exist as to the mode of transmission to child when the father alone is diseased and the mother remains apparently uncontaminated.

L.

Hemorrhagic Endometritis

Dr. J. A. Shaw-Mackenzie (*The Lancet*, No. 3878, p. 1650), before the British Gynecological Society, Dec. 9, 1897, read a paper on this subject. He pointed out the difficulties of differential diagnosis between chronic inflammatory conditions of the endometrium and commencing adenocarcinoma. He showed two uteri with microscopic sections removed for intractable hemorrhage at the menopause. Both patients were now in good health. He exhibited a third uterus removed for the same cause. In this case the patient had died after the operation from exhaustion. Microscopic sections were alike in each of the three cases. Hemorrhagic endometritis, the author considered, was, clinically, bleeding from the uterus from various enumerated general and local causes, while the microscopic appearances of the endometrium were those of chronic inflammation of various degrees. Menorrhagia in many cases was due to gonorrhea and unsuspected syphilis usually associated with ovarian and tubal disease.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Treatment of Broncho-pneumonia in Children

Broncho-pneumonia constitutes, as is known, a frequent complication of measles, and its gravity is accentuated by its tendency to become chronic, whereby the fever is so prolonged that the patient is prone to succumb, where the acute stage has been passed over with safety, from general exhaustion. In such cases a confrère strongly advises the administration of iodoform according to the following formula, and from which he avers having obtained very good results (*Med. Press*, LXV, p. 138).

Iodoform 10 grn. (0.6 gme.)
Cod-liver Oil..... 4 fl. oz. (120 gme.)
Spirit Anise..... 30 min. (2 gme.)

Two teaspoonfuls a day at first, increased, gradually, according to the tolerance of the child.

Ichthalbin in Eye-practice

Ichthalbin is a compound of ichthyol, with albumin, containing 75 per cent. of ichthyol. It was tersely described on page 857 of Vol. XI, and again alluded to on page 136 of the current volume of the BULLETIN. Dr. Wolffberg, of Breslau, editor of *Woch. f. Therap. u. Hyg. des Auges*, in No. 18, of 1898, has a leading article on "Ichthyol and Ichthalbin in Eye-practice," in which he states as follows:

He used about 500 gme. of ichthalbin in forty cases, mostly of glaucoma and iritis, in all of which it promptly manifested a decidedly analgesic action, being given internally, 0.5 gme. (8 grn.) three times per day. Also in mechanical irritation and inflammation of the conjunctiva, the pain was stilled and the hyposphagma subsided. The author decidedly recommends ichthalbin internally, in conjunction with proper topical treatment, also in other inflammatory conditions, as in fascicular keratitis, pannus, etc. F.

Anchieta Salutaris

The root-bark of *Anchieta salutaris* St. Hil. is, according to Dr. Th. Peckholdt (E. Merck's 1898 *Bericht*, p. 164), highly valued in Brazil as a remedy in scrofula, erysipelas, throat-affections, eczematic and herpetic skin-diseases, and wounds. The plant is a member of the natural order Violariaceæ, and is commonly known as "Cipo Suma," "Cipo Carneiro," and "Pirageia." In affections of the skin an aqueous

decoction of the bark (30:500) is employed, a wineglassful being given every morning and evening. In erysipelas, a cupful is given every morning and evening. In treating hemorrhages, a tablespoonful of a 10:350 decoction is given every two hours. In doses of 8 gme. (2 dr.) the powdered drug acts as an aperient, and doses of 12 gme. (3 dr.) are emetic. The remedy is also used at intervals of two days in morphea. From the fluid extract a syrup is prepared, which is given in scrofula and cutaneous eruptions in children, in daily doses of from two to three teaspoonfuls. F.

Detection of Lead in Urine during Lead-poisoning

J. William Abram (*Apoth. Ztg.*, XII, p. 858) gives the following method for detecting the presence of lead in the urine during lead-poisoning: Metallic magnesium is introduced into the urine and ammonium oxalate added in the proportion of 1 part of the salt to 150 parts of the urine being examined. Any lead present is, by this means, precipitated on the magnesium, and can then be readily identified; for instance, by warming with a fragment of iodine, yielding lead iodide, or by dissolving it in nitric acid, and applying the usual tests. Control-tests made by the author show this method to be sensitive up to a dilution of 1 part of lead in 50,000 of fluid. The author usually allows a period of twenty-four hours for the complete precipitation of the lead on the magnesium. F.

Methylene-blue in Acute Gonorrhea

Dr. Orville Horwitz read a paper before the Philadelphia County Medical Society recently on the beneficial effects of methylene-blue in the treatment of acute gonorrhea, as exemplified in 105 cases. He made also special reference (*Phil. Med. Jour.*, I., p. 316) to the germicidal action of the chemical on the gonococcus. The usual dose was 2 grn. three times a day. If diarrhea or strangury resulted (which was very rare) the dose was diminished to 1 grn. three times a day. The addition of nutmeg seemed to diminish the tendency to the development of any unpleasant symptoms. The drug usually caused a diminution of the discharge within four or five days, and its cessation at the end of two weeks; complications were much diminished. The treatment was of little avail in cases in which the gonococcus could not be demonstrated. It would not abort the disease. Copaiba and sandalwood were commonly administered in conjunction with the methylene-blue. In the discussion following the read-

ing, Dr. H. M. Christian said he had not obtained such good results when he had used the methylene alone, as it should be if we are to form an opinion as to its efficacy. In view of the favorable report of Dr. Horwitz, however, he would be disposed to try it again. Dr. J. T. Rugh said that he had tried it in one case and obtained a very favorable result. In closing, Dr. Horwitz said that methylene-blue undoubtedly caused immediate amelioration of the symptoms, diminution of the gonococci, and lessening of the complications. Experience had demonstrated that the other remedies which he added had increased its efficacy.

In this connection it may also be stated that Dr. G. Richard d'Aulnay has also published a paper on the use of methylene-blue in diseases of the urinary passages, and of which he presented the results in diseases of the kidneys, bladder, and urethra in the following brief résumé: (1) It is an excellent microbicide; (2) it coagulates pus; (3) it prevents fermentation; and (4) it is an excellent analgesic when given internally, and these properties may, hence, determine its indication in various affections of the urinary system. F.

Iodoformogen

Under the name of "Iodoformogen" Dr. Ernst Kramayer, describes a new, practically odorless preparation obtained by combining iodoform and albumin. The compound occurs as a fine, brownish-yellow powder; it is insoluble in water, perfectly dry, and does not become lumpy, in which latter respect it is superior to iodoform. It is also $2\frac{1}{2}$ times more voluminous than the latter, but its main advantage consists in its being practically odorless (it has but a faint acidulous odor). No odor is perceptible when the iodoformogen is applied under a dressing, and hence its use will inconvenience no one. It is stated that the powder, when kept for some time in closely stoppered bottles, may develop a faint iodoform odor, but this rapidly disappears completely on leaving the bottle open for a short while, or upon vigorously shaking the contents. The author has used iodoformogen in some eighty cases, and the results obtained have convinced him that iodoformogen has a very pronounced iodoform action, which was particularly observable in the stimulation of granulation and the rapid formation of epithelium which followed the application of the iodoformogen. In consequence of its fineness and comparative levity, iodoformogen may be introduced into all cavities, sinuses, fistulas, and wounds, in the minimum quantities that will produce the best results. Besides, the dry, granular

powder adheres much better to the moist tissue than does iodoform, hence its more certain action. Besides the albumin with which the iodoform is combined, iodoform contains small quantities of albumin iodide as well as traces of iodine. The author, however, considers that their presence confers an advantage on the preparation because while iodoform first becomes decomposed when in contact with cellular tissue, in iodoformogen the decomposition pre-exists in very small degree, and the action is, hence, greater. Since, however, the iodoform is not present as such, but is gradually liberated from its combination by the secretions of wound-surfaces, the action of iodoformogen ought to be a more sustained one. F.

Caseiodine and Iodocasein

Under the name of "Caseiodine" A. Liebrecht describes (E. Merck's 1898 *Bericht*, p. 38) an iodine derivative of casein, having some similarity to Baumann's iodothyryn (thyroidin). Caseiodine occurs as a white powder, and contains about 8 to 9 per cent. of iodine in combination. The preparation is soluble in hot diluted alcohol, as well as in dilute solutions of the alkalies, but is insoluble in the ordinary solvents. According to Prof. Kocher (*ibid.*), caseiodine has an excellent effect in struma.

Dr. Lepinois also reports (*ibid.*), regarding another and similar preparation, named "iodocaseine," which contains 20 per cent. of iodine. F.

Erysimum Officinale

Erysimum (Sisymbrium) officinale L., natural order Cruciferae, is found in central and southern Europe, where it is commonly known as "Wilder Senf," Herbe au Chantre, Wild Mustard, and in the Eastern United States, where it is called hedge-mustard. The plant has, for a long time, been popularly credited with considerable resolvent, expectorant, and diuretic properties, being used in France particularly in hoarseness, hence its name there, "herbe au chantres" (singers' herb). Dr. Hermary reports (E. Merck's 1898 *Bericht*, p. 165) that it has yielded excellent results in laryngeal catarrh. He succeeded by its means in not only relieving the pain and hoarseness, even when complete aphonia was present, within one day, but also in beneficially influencing the inflammatory condition of the laryngeal mucous membrane. Erysimum is preferable to aconite in laryngitis because of its innocuousness, rapidity, and certainty of action. Hermary usually gave the drug in the form of a decoction, 30 gme. (1 oz.) being made

up into three cups of decoction and given daily, together with 60 gme. of a syrup of erysimum made from one part of the drug, twelve parts of water, and twenty-four parts of sugar. Even simple chronic laryngeal catarrh is more favorably influenced by erysimum than by the remedies usually employed, only the treatment in this case must be continued for a week or two. F.

Tampons of Ichthyol and Glycerin in Chronic Vaginal Blennorrhagia

In cases of chronic blennorrhagic vaginitis that frequently resist the most energetic remedies on account of their inability to reach the gonococci deeply embedded in the mucosa, O. Bodenstein, of Berlin, has had successful recourse (*La Sem. méd.*, XVII, p. 206) to tampons of ichthyol and glycerin.

These tampons are in the form of small balls, and are impregnated with a 10-per-cent. ichthyol-glycerin. They are inserted in a manner so as to dilate the vagina well. This dilatation, as well as the serous secretion provoked by the glycerin, causes the gonococci to come to the surface of the mucosa. At the end of a few days, desquamation occurs, being due to the action of the ichthyol, and the membranous surface acquires a reddish-purple color, the papillæ become apparent, and slight hemorrhages are observed at various points on the surface. The hemorrhages are checked by means of cotton, or iodoform tampons, and the vaginal walls are then touched with a silver-nitrate solution, the cure then setting in very rapidly. The writer has had occasion to employ this method in over fifty cases without a single bad result. The best time of treatment was found to be immediately before or directly after the menstrual period. F.

Gualacol in Tubercular Peritonitis

The following has been recommended (*Med. Rev. of Rev.*, IV, p. 110):

Guaiacol 1 part.
Tinct. Iodine, or Olive-oil..... 4 parts.

Apply to skin of the abdomen in the afternoon, during the highest temperature, and cover the abdomen with waterproof and cotton-wool

F.

Cocaine Hydriodate

Cocaine hydriodate, $C_{17}H_{21}NO_4.HI$, though not a new salt of cocaine, has thus far been practically unknown to clinicians. It occurs as colorless crystals, but slightly soluble in water. It has been recommended by Dr. R. Marcus (*E. Merck's 1898 Bericht*, p. 44) in place of hydrochlorate for produc-

ing electroanesthesia in dental surgery. Marcus states that anesthesia sets in after the application of seven and a half minutes of a 20-per-cent. guaiacol-cocaine solution, by means of an electric current ranging from 0.2 to 4 milliamperes, and lasts from ten to fifteen minutes. Patients retained complete consciousness, scarcely felt the current, observed not the slightest pain during the extraction, and suffered no after-effects. The guaiacol, as a non-conductor, localizes the cocaine solution, retards the latter's absorption into the human organism, and prevents harmful by-effects. The replacement of cocaine hydrochlorate by the hydriodate is recommended, because the latter is better adapted for cataphoresis. More recently Marcus has employed a homogeneous mixture of cocaine hydriodate, menthol, and brenzcin, with vasogen, which yields greater advantages, as by the use of brenzcin the caustic action of guaiacol on the mucous membranes is avoided. F.

Cough-mixture

A cough-mixture much employed in the Roosevelt Hospital, New York City, is the following:

Cr deine 0.25 gme. (½ grn.)
Dil. Hydrocyanic Acid. . 3 gme. (45 grn.)
Ammonium Chloride. . . 3 gme. (45 grn.)
Syrup Wild Cherry to make
60 gme. (1½ fl. oz.)

Teaspoonful every three or four hours.

F.

Plasmins

Drs. H. Buchner and Hahn have obtained (*Apoth. Ztg.*) from the cell-secretions of lower organisms liquids to which they have given the generic name "Plasmins," and to which are ascribed the specific action of the cells (yeast-cells, pathogenic bacteria, etc.) from which they are obtained. Up to the present time the following plasmins have been prepared and applied for the purposes of immunization: Cholera plasmin is obtained by making a large number of cultures of cholera bacteria on agar-agar, collecting the thick, vigorous growth after one or two days, and triturating it with quartz sand or infusorial earth. The mass so obtained is made into a dough with water or a 20-per-cent. glycerin-solution, or physiological salt-solution, which is then transferred to a cloth and subjected to hydraulic pressure, which is gradually increased from 4 up to 500 atmospheres. In this manner a fluid is obtained which may be perfectly clarified by filtration through a thick filter, thus yielding a fluid which is at first bright yellowish, but which in a few hours becomes a darker yellow to even brownish, most probably due

to the absorption of oxygen by the albumin of the liquid. An injection of 0.5 to 0.6 c.c. of the cholera plasmin so obtained immunizes guinea-pigs to such an extent as to render them able to resist a ten-fold lethal dose after eight days.

Typhoplasmin, similarly prepared, was found to be excellent for immunizing against typhoid fever.

Tuberculoplasmin was freed from bacteria by filtration through infusorial earth. It was also possible, however, to obtain a liquid requiring no filtration by adding 20 per cent. glycerin and 5 per cent. of sodium chloride to the mass, and which could be retained for a long time unchanged if kept in an ice-box. Tuberculoplasmin decomposes hydrogen peroxide. This property is, however, destroyed by heating the tuberculoplasmin to 60° C., and is suspended by hydrocyanic acid; it regains it, in the latter case, if the hydrocyanic acid is eliminated by passing air through the liquid and warming. In this respect tuberculoplasmin behaves, according to Schonbein and Schar, like a ferment-solution, and further investigations made appear to point to the presence of a hydrolytic ferment. No clinical reports are as yet at hand, however. F.

Spasmodic Coughs

The following combination is recommended (*Gaillard's Med. Jour.*, LXVIII, p. 193):

Bromoform	1 fl. dr.
Tincture Gelsemium	2 fl. dr.
Syrup Lactucarium	2 fl. oz.
Powdered sufficient to emulsify.	

Teaspoonful three or four times a day.

F.

Naphtylaminesulphonic Acid as an Antidote in Poisoning by Nitrites

Naphtylaminesulphonic, or naphtionic, acid, occurs as a white powder soluble in about 4000 parts of cold water, but much more so in alkaline fluids. It possesses the property of combining with nitrous acid to form an easily decomposable diazo-naphtylaminesulphonic acid, which is comparatively harmless in its effects on the animal organism. For this reason Dr. E. Riegler recommends (*E. Merck's 1898 Bericht*, p. 20) the acid as a rational antidote in poisoning by nitrites. Since also iodism supervenes when iodine is liberated from the iodides of the alkalis and is deposited on the nasal mucosa—and the same liberation of iodine is effected by the presence of nitrites—the exhibition of the acid is indicated in iodism, according to Riegler. A further indication for prescribing naphtylaminesulphonic acid exists in those affections of

the bladder caused by alkalinity of the urine, because the acid possesses the valuable property of dissolving readily in the urine and rendering the latter acid by forming easily soluble sodium naphtylaminesulphonate, abstracting sodium from the disodium phosphate present in the urine and reducing it to the mono-sodium phosphate. The acid is given in doses of 0.5 grm. (8 grn.) in cachets, every three or four hours.

F.

Brenzcin

Brenzcin, pyrocatechinmethylbenzyl ether, guaiacolbenzyl ether, occurs in the form of colorless crystals, soluble in alcohol and in ether, and melting at 62° C. This preparation has been introduced as a succedaneum for guaiacol. It is said to be free not only from the caustic action that guaiacol exerts on mucous membranes, but also from the other drawbacks of the latter, while possessing all its advantages. Brenzcin has been employed by Dr. Marcus (*E. Merck's 1898 Bericht*, p. 33), in conjunction with cocaine hydriodate, for producing local anesthesia by cataphoresis, in dentistry. Investigations are now under way to determine to what extent brenzcin may replace guaiacol and its compounds in tuberculosis. Brenzcin dissolves best in vasogen, and in such solution it may be exhibited like the other guaiacol compounds and in similar doses.

F.

Oxidized Chrysarobin

This is a new preparation, introduced by Dr. Unna (*E. Merck's 1898 Bericht*, p. 42) into dermatological practice. The preparation is obtained by the action of sodium peroxide on chrysarobin suspended in boiling water. Dr. Unna was led to seek for an oxidized chrysarobin in consequence of the good results obtained with oxidized pyrogallol (pyraloxin), previously introduced by him. Oxidized chrysarobin has no effect on psoriatic or dry eczematic efflorescences, as has chrysarobin. It is only in facial eczema and in rosacea, affections in which chrysarobin is better avoided, that the brownish-black oxidized chrysarobin exerts a mild, favorable effect, comparable with that of chrysophanic acid obtained from senna or rhubarb. According to the author, oxidized chrysarobin is indicated in all cases where chrysarobin is contraindicated on account of its vigorous action—in eczema of the face, of the genitals, etc. It is best used in the following form:

Oxidized Chrysarobin	1 to 2 parts.
Vaselin	10 parts.
Lanolin	10 parts.

F.

REVIEWS

Lectures on Physiology. First Series. On Animal Electricity. By Augustus D. Waller, M. D., F. R. S., Fullerian Professor of Physiology at the Royal Institution of Great Britain, Lecturer on Physiology at St. Mary's Hospital Medical School, London. Longmans, Green & Co., New York and Bombay. 1897. \$1.50.

The present convenient and well-gotten up handbook contains the substance of a course of twelve lectures on "Animal Electricity," delivered at the Royal Institution during the spring of 1897. The experimental technic is discussed with clearness and the results are stated with no circumlocution or waste of words. The effects of different substances upon the electrical excitability is shown by numerous diagrams. The book is a very excellent one, and is to be recommended to workers in physiological laboratories and also to physicians who use electricity as a therapeutic agent.

Annual Report of the Board of Health of New York. For the Year Ending December, 1896.

This report will prove of interest to the physician from a medical as well as civil standpoint. It gives full information regarding the examination of milk, sputum, feces, etc., the use of Vidal's test and tuberculin; the production of diphtheria antitoxin, etc., and contains a vast number of valuable statistics on vaccination, diphtheria, tuberculosis, etc.

The antivaccinationists will certainly note with displeasure that through rigid enforcement of the laws regulating vaccination, no case of small-pox occurred during the year 1895-96, and those who doubt the beneficial effects of diphtheria antitoxin will be hurt to read that by means of antitoxin the death-rate of diphtheria has been reduced from 42.3 per cent. in the year 1880 and 29 per cent. in 1890, to 15.2 per cent. in 1896.

Part Second of Cutaneous Medicine. By Louis A. Duhring, M. D. Press of the J. B. Lippincott Company, Philadelphia.

This volume is divided into four sections, namely, classification, anemias, hyperemias, and inflammations. Under the head of classifications the Doctor first considers the object and then gives a short résumé of the history of this important feature in the study of dermatology. From this he gradually leads up to his own excellent classification. While he has preserved the general outlines that characterized his first work on cutaneous medicine published in 1887, he has made some radical changes. For instance, he places the parasitic diseases under class three among the inflammatory disorders; this would seem to be a mistake, especially as it tends to confuse the student. It appears that the older classification, that of making a distinct class and calling them parasites is far better. He has incorporated all of the newer names that have received the approval of the American Dermatological Association. In spite of the above slight criticism there is perhaps no better or more lucid system of classification in the English language. Anemias of the skin are considered in Section Two. Section Three deals with the hyperemias, and the pages are replete with references and data obtained from the most skilled neurologists as well as those versed in dermatology. Section Four is confined to

the most interesting and largest division of dermatology, namely, those diseases characterized by exudation and inflammation. First he considers the definition of the term dermatitis, which naturally leads up to the erythemas; the various forms with the pathology and etiology are fully and extensively discussed from our most modern knowledge of the subject. Pellagra and acrodynia are placed with the erythemas, which is perhaps a new departure; in a natural sequence urticaria next follows, and then the absorbing and extensive disease, eczema. This occupies 109 of the volume of 494 pages. The excellence of these 109 pages is so apparent that it is only necessary for the reviewer to recommend them to the attention of any one wishing light on this common yet obstinate disease. After this the Doctor devotes twelve pages to the discussion of impetigo and dermatitis herpetiformis. If time and space were given it would be a great pleasure to quote *in extenso* from these pages, replete with the thoughts on this subject of a master mind. The remainder of the volume treats of pemphigus, pompholyx, herpes simplex, and herpes zoster. The work is profusely embellished with black-and-white illustrations which are so excellent that they can convey to the merest tyro an accurate picture of the disease in question. The same excellent typography, binding, etc., is continued as in Part I.

Outlines of Rural Hygiene. For Physicians, Students, and Sanitarians.—By Harvey B. Bashore, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on The Normal Distribution of Chlorine, by Prof. Herbert E. Smith, of Yale University. Illustrated with Twenty (20) Engravings. 5¼ x 8 inches. Pages vi-84. Extra Cloth, 75 cents net. The F. A. Davis Co., Publishers, 1914-16 Cherry st., Philadelphia; 117 W. Forty-second st., New York City; 9 Lakeside Building, 218-220 S. Clark st., Chicago, Ill.

This instructive little volume has reference to the diffusion of sanitary knowledge, and is of special interest to those who labor in rural districts. The various chapters on Water Supply, Waste Disposal, The Soil and Habitations have each appropriate subdivisions, clearly defined. In the examination of Wells and Well-Water, the author touches the keynote in the sentence, "The proximity of a source of pollution counts for little as to a distance in feet, the position studied in regard to the slope of the strata and the direction of the ground—water currents meaning much more in laying bare a source of trouble."

Under Waste Disposal, decided preference is given, as to excreta, to the simple dry-earth closet, as against the privy vault, where there is no water service.

Ground-water and ground-air are appropriately referred to under The Soil, the second subdivision having special reference to proper attention being paid to the foundation of a house. The sanitary arrangements of school-buildings and dwellings are thoroughly and concisely entered into also.

A chapter on Disposal of the Dead, having relation mainly to the possible transmission of contagious diseases, and an appendix on the normal distribution of chlorine, close the volume, which, in increasing one's knowledge on a vital subject, holds one's interest throughout. The author is to be congratulated, as are also the publishers, the book being brought out in clear print and neat style. It should find a place in every library of medicine and sanitation.

CORRESPONDENCE

An Antidote for Rattlesnake Poison

To the Editor of the A. M.-S. BULLETIN:

In the issue of Dec. 10, 1897, is an article culled from the *Kansas Medical Journal* (Vol. IX, No. 5, p. 57-60), by Dr. J. F. Brewer, on "Prairie-rattlesnakes: Their Poison and Its Treatment," in which he says, in referring to the treatment, that there is "no antidote."

The doctor will, no doubt, be grateful to learn that the specific medicine echinacea, or its clearer product, echafolta, is a perfect antidote to the poison of the most venomous rattler, centipede, tarantula, etc., which the writer has proven time and time again.

It is applied locally in a 25-per-cent. solution in distilled water, the parts to be kept moist with it. Internally it is given in 15-drop doses every 15 minutes to every three hours, according to the gravity of the case.

A. S. TUCHLER, M. D.

1012 Mission st., San Francisco, Cal.

Foreign Body in the Alimentary Canal Eleven Weeks

To the Editor of the A. M.-S. BULLETIN:

I wish to record a case that I think will be of interest to many of your readers. A child of 2 years swallowed a common safety-pin one and one-half inches long, the pin being open at the time. I saw the child two days afterward. It presented no symptom of any distress from such a dangerous foreign body, with its sharp point ever ready for mischief. I did not at the time believe the child could have swallowed the pin at all. I heard nothing after that from the case until eleven weeks had elapsed, when I was sent for in a hurry, the mother having discovered the pin protruding from the anus, point forward. It was then removed with little difficulty. The only symptom the child had all these weeks was an occasional scream and a desire to rub its belly with its hands pretty often. Now when one thinks of the shape of that open pin with its prong always on the offensive, and the tender surfaces through which it traveled, I think it is marvellous that the stomach or intestine was not punctured and a serious inflammation set up, also the length of the time required, full eleven weeks, before it was expelled. Surely sometimes when left to herself Nature can indeed be relied on for very good work.

J. P. NOLAN, M. D.

41 Charlton street, New York.

Proposed National Commission of Public Health

To the Editor of the A. M.-S. BULLETIN:

The American Medical Association, the largest medical body in this country, through a special committee appointed for the purpose, drafted a bill to create a National Commission of Public Health, which has been introduced in the House of Representatives, an abstract of which is herewith enclosed.

The American Public Health Association, the largest sanitary body in the world at the present time, at its twenty-fifth annual meeting held in Philadelphia, October last, voted to approve this bill, and the committee of the American Medical

Association are urging upon the Fifty-fifth Congress the necessity of establishing this Commission of Public Health, which will take the place of what is now known as the Marine Hospital Service, the Commission being broader in scope.

As President of the American Public Health Association I write to you in the hope and expectancy that you will deem it of sufficient importance to the public welfare to urge in the columns of your paper that Congress establish a Commission of Public Health.

In the last report of the former National Board of Health, made in the year of 1885, are the following words:

"While the figures representing the deaths from preventable diseases are appalling in their magnitude, they fail to convey a just conception of the permanent injury resulting from these diseases in the multitude of cases which do not have a fatal termination.

"The attention of sanitarians is now directed with great earnestness towards the discovery and removal of the causes of preventable diseases, and the vast benefits which have already accrued from the application of preventive measures would guarantee to all portions of the country the necessary provisions of law under which sanitary investigations and improvements can be carried forward successfully."

Newspapers mould and mirror public opinion. In them lies the potency and promises for good far exceeding any other human agencies.

Will you not do what you can in the columns of your journal to aid in this great work, as the bill will meet with great opposition from the Hospital and Quarantine Service—for obvious reasons—and also see that the sentiments which you may express upon this important subject reach your Congressional representatives?

CHAS. A. LINDSLEY, M. D.

Pres. American Public Health Association.
Boston, March 1, 1898. P. O. Box 3751.

[We have already referred to this subject more than once in the BULLETIN, and will have another word to say upon it before long.—Ed.]

Collective Investigation of the Action of Cold in Pneumonia

To the Editor of the A. M.-S. BULLETIN:

My three collective reports already published on local cold applications in the treatment of acute pneumonia give a record of 299 cases so treated, with ten deaths, or a mortality rate of 3.35 per cent.

Being desirous of pursuing this investigation still further, I take the liberty of asking those who have tested this measure to kindly give me the result of their experience. Full credit will be given each correspondent in the report which I hope to publish soon. Blanks for the report of cases will be cheerfully furnished by me, with postage for return of same, on application.

THOMAS J. MAVS, M. D.

1829 Spruce st., Philadelphia.

February 26, 1898.

The members of the Master Barbers' Association, of Atlantic City, N. J., have passed a resolution asking all the physicians of the city to assist them by signing a petition to the Council asking that they be brought under the sanitary rules and inspection of the Board of Health. They also ask for a medical inspection of all journeymen barbers to protect against syphilis or other contagious disease.

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EDITOR'S NOTES

The H. K. Mulford Company, of Philadelphia, has begun the publication of a monthly medical journal which is called *Practical Therapeutics*. The first number contains a large amount of valuable and interesting material. The editor says that *Practical Therapeutics* will always stand as an exponent of ethical, scientific medicine, unalterably opposed to anything which savors of quackery, charlatanism, or secrecy of pharmaceutical preparations."

We wonder if the Humane Society of Kansas City, Mo., has gone into vivisection dogs in a way to arouse popular indignation in that section against vivisection. On one of the coldest and nastiest days this winter some one turned loose into the streets of that city a dog on which had freshly been performed a laparo-enterotomy. The Humane Officer was notified of the case, and instead of taking care of it, bade some one take the animal to a certain restaurant, where he had arranged for its being fed. When taken there the proprietor knew nothing of the matter and refused to succor the animal. Whoever turned that dog loose on such a day under such circumstances, was a brute and deserves to be punished. No scientific investigator would do a deed of that kind, and we are at a loss to discover an adequate motive for any one else doing such a detestable

deed unless it was some one that hoped thereby to make vivisection and vivisectioners get the blame. We hope the miscreant will be found and adequately punished.

A Northfield, N. J., dairy has lately been scattering death in the form of scarlet-fever germs, among the families of the Oranges. The State Board of Health discovered the matter in time to save many persons from suffering and death, and they have had the cows removed to another farm. When will dairymen learn enough about bacteriology to make them safe members of the community? The barbers are awakening to the dangers of ignorance in their business, but the dairymen, though ten times more dangerous to the community, are making little or no effort toward improving themselves. This condition of things needs to be improved at once, and medical men should raise their voices in behalf of a reformation.

Barber-ous, Number 2. In a recent editorial note we gave some account of the esthetic struggles of the American barbers towards the empyrean of professional glory. In Paris the force seems to come not from within the body, but from above; and the municipality is attempting to see that favus, the barber's itch, and other dire diseases play no havoc with Parisian heads. Rules have been propagated, requiring all barbers' tools to have metallic handles, and to be disinfected after each using either by boiling in hot soapsuds or by exposure in a superheated dry-air furnace. No powder-puff, but a "powder-blower," is to beautify the countenances of the fair Parisienne, while the unfortunate barber who fails to wash his hands with a disinfectant soap before shaving his customer must suffer fine.

The editor of the *Medical Times and Hospital Gazette* in a late issue when referring to the utter supineness of medical men in allowing charlatans to run riot and other evils to exist that they could easily rid themselves of if they tried calls attention to the fact that other professions suspend their activities for days together until they get what they want. He says that if "the members of the profession to which we belong agree to suspend their labors for even an hour, to say nothing of days, and the public would receive an object-lesson, such as it would never forget, of the absolute necessity of the medical profession to its comfort, safety, and happiness." If our legislators should once receive such a lesson they might be very materially benefited by it. At present some of them seem to think

that they can with impunity heap any insult upon us they choose, and even fine us for being doctors. As a body we certainly fail to demand the rights we deserve, and in consequence are being imposed upon as never before in the history of our profession. Only in united effort is there strength. Let all educated medical men pull together and we will get everything that is ours by right.

Dr. Emory Lanphear, editor of the *American Journal of Surgery and Gynecology*, wants every city and county medical society in the country which is affiliated with the American Medical Association to pass the following resolution, which he thinks will go far toward righting some of the wrongs that medical men are at present suffering from. "Resolved, That henceforth all local and State medical societies in affiliation with the American Medical Association be permitted to admit to full membership any graduate of a reputable homeopathic or eclectic college, who is an honorable man, a conscientious practitioner, and who does not use the name 'homeopath' or 'eclectic' upon his sign or card, or in any other manner calculated to secure business upon the assumption that he is practicing some peculiar system of medicine." We believe that it is only a matter of time when some such move will be undertaken, but we fear that average human nature has too strong a touch of bigotry yet for either side to accept such a solution of present difficulties. If sectarianism could be removed it is certain that public respect for us would at once increase. It is also certain that a union of the forces of all educated practitioners against ignorant pretenders would bring better results than the present method of warfare. There is at present a strong current of public opinion setting in against us when such men as Prof. James, of Harvard, and William Lloyd Garrison only see self-interest in our efforts at improving medical education and keeping ignorance and fraud from treating the sick.

Local Treatment of Rhinitis

T. T. Purkitt (*Gaillard's Med. Jour.*, LXVIII, p. 194) recommends the following as a local application in both atrophic and hypertrophic rhinitis:

Guaiacol.....	1 fl. dr.
Menthol.....	40 grn.
Cocaine Hydrochlorate.....	20 grn.
Camphor.....	20 grn.
Liquid Petrolatum.....	4 fl. oz.

Use in an atomizer, spraying the nose and throat every three hours, or oftener, if possible.

F.

PUBLISHERS' DEPARTMENT

THE BEAUTIFUL ST. JOHN'S RIVER

The Clyde Line, operating steamers between New York, Charleston and Jacksonville, Fla., in connection with Clyde's St. John's River Line, announces that on the 16th inst. they commenced running the well-known steamers between Jacksonville, Palatka, Sanford, Enterprise, and intermediate points, leaving Jacksonville daily (except Saturdays). Returning, these steamers leave the various landings daily (except Sundays) for Jacksonville, where connection is made with the Clyde Line steamers for the North.

The beauties of the St. John's River are well known, and on its banks are many boarding-houses and hotels, where the choicest of Southern delicacies may be had.

The Clyde Line, No. 5 Bowling Green, New York City, will send advertising matter regarding Southern Resorts.

McARTHUR'S SYRUP HYPOPHOSPHITES

Since their introduction the Hypophosphites have firmly maintained their hold on professional and popular confidence, and to-day are prescribed alone and in combination by more physicians than any other remedy. McArthur's Syrup Hypophosphites (Lime and Soda) Comp. is a reliable preparation worthy of trial. If a stimulant is needed you may add it. It isn't there when you do not need it as McArthur's Syrup is simply a tissue-builder, a permanent tonic.

RESINOL

The Resinol Chemical Co., of Baltimore, has just issued a pamphlet by J. Hobart Egbert, A. M., M. D., Ph. D., of Holyoke, Mass., entitled "Eczema, and its successful treatment." The pamphlet also contains valuable testimonials as to the efficiency of "Resinol" on various diseases from many well-known physicians in different parts of the country.

TREATMENT FOR CHRONIC BRONCHITIS

Dr. J. Wilmoth, of New Orleans, writes to the Angier Chemical Co. that his sister had been a sufferer from chronic bronchitis for nearly ten years. She had become much emaciated and greatly debilitated. He finally prescribed Angier's Petroleum Emulsion, and early in the treatment the benefit was marked. The cough had almost disappeared, breathing was easier, the pulse was fuller and more regular, and for the first time in several months she enjoyed her food and gained in weight. Within a fortnight the patient declared herself cured, and although since then there has been much cold and changeable weather, there has been no relapse, and she has gained eighteen pounds in weight.

The Angier Chemical Company's advertisement appears on p. iii in the present issue of the BULLETIN.

CHRONIC ENDOCERVICITIS

Charles A. L. Reed, M. D., Professor of Gynecology and Abdominal Surgery, Cincinnati College of Medicine and Surgery, of Cincinnati, O., says: "For a number of years I have treated chronic endocervicitis by first clearing away the mucus from the canal and then packing the latter

with a pyramidal pledget of cotton, saturated with undiluted 'Platt's Chlorides.' A few applications of this character are often all that are required to correct the condition and to save the patients from the less desirable procedure of curettement, which, however, must be done in certain cases."

THE GLOBE NEBULIZER

Dr. S. S. Bishop, of the Chicago Post-Graduate Medical School and Hospital, has written a very interesting article on sprays and inhalents, which appears in the February number of the *Laryngoscope*.

He recommends the use of nebulized fluids in the treatment of respiratory and aural affections, because on account of the extreme fineness of the spray, or nebula, applications may be made to all parts of the respiratory tract and middle ear, and at the same time in much more concentrated form than by ordinary sprays. He says that they are like the alkaloid preparations as compared with the grosser forms of medicines for internal medication. In the doctor's opinion, the nebulizers manufactured by the Globe Manufacturing Company, of Battle Creek, Mich., stand at the head in perfection of design, construction, and finish, special mention being made of the device originated by this company for the application of vapor massage, which has been found of great value in the treatment of all respiratory and aural affections.

ASEPTOLIN-EDSON

This is the title of a brochure recently published by the Asepta Chemical Co., of New York, manufacturers of the above preparation. The author, Dr. Cyrus Edson, is its originator, and treats of its uses in tuberculosis, septicemia, malaria, la grippe, and other diseases originating from germ-infection. Several reports of cases in which Aseptolin has been used are also given.

A PAPER-CUTTER AND BOOK-MARK COMBINED

A handsome metal paper-cutter and book-mark combined will be sent free of postage under sealed cover on receipt of ten cents in silver or stamps. It is the latest, best, and most serviceable adjunct of every library and office. Address Geo. H. Heafford, 40 Old Colony Building, Chicago, Ill.

CHRISTY SADDLE PRIZE COMPETITION

Early in May, 1897, Messrs. A. G. Spalding & Bros. announced a competition, open to doctors only, for the best-written advertisement setting forth the good points of the Christy Anatomical Saddle. Hundreds of advertisements were received up to the closing day of the contest, April 15. A jury, consisting of Mr. George B. Gallup, of the *Metropolitan Magazine*, New York; Mr. Joseph Wilberding, of the *New York Times*, and Mr. J. W. Curtiss, of A. G. Spalding & Bros., decided, after careful consideration, to award the prizes as follows: First prize, \$50, won by W. H. Thompson, M. D., Winamac, Ind.; Second Prize, \$25, won by F. A. Myrick, D. D. S., 100 Lexington ave., New York; Third Prize, \$10, won by E. R. Axtell, M. D., University of Denver, Col. To each doctor contributing an advertisement which was accepted, one Christy Anatomical Saddle was sent free of charge. The advertisements received were varied indeed, and show conclusively that the doctors of the country were very much interested in the saddle question.

The Christy Saddle for 1898 is now being displayed by A. G. Spalding & Bros. and their agents

throughout the country. If anything it is an improvement on last year's saddle, which was such a phenomenal success. The Christy Saddle has received the universal endorsement of the medical fraternity. This year the advance orders for the Christy Saddle are said to be far beyond the expectations of the makers. A. G. Spalding & Bros., New York, Chicago or Philadelphia, will send a Christy Saddle Bulletin to any physician upon request.

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co. and Leased, Operated, and Independent Lines.

The office of general passenger ticket agent of this company makes the following announcement:

"CHUTMUCK SPECIAL"

AMERICAN MEDICAL ASSOCIATION, DENVER, COL.,
JUNE, 1898.

For the meeting of the American Medical Association, to be held at Denver, Col., in June, 1898, we take pleasure in announcing that the Missouri Pacific Railway has arranged to run a special through train from St. Louis to Denver, to be known as the "Chutmuck Special," making the trip via Kansas City, Pueblo, and Colorado Springs.

This will be one of the handsomest trains ever run in the West, consisting of Compartment Sleeping Cars, Dining Car, Buffet Car, etc., affording special accommodations for the wives and families of yourself and friends. Please remember this in making your arrangements.

Due announcement as to dates, schedule, etc., will be made later on.

H. C. TOWNSEND,

General Passenger and Ticket Agent.

B. H. PAYNE,

Ass't Gen'l Passenger and Ticket Agent.

NEWS

Prof. Welch, of Johns Hopkins University, is now a member of the Maryland Board of Health.

The Chicago *Evening Journal* says that society people in the city of Chicago are making a fad of osteopathy.

Louisville, Ky., has taken the lead in passing an ordinance granting physicians wearing a distinctive badge the right of way on the crowded streets.

An effort is about to be made to amend the New York Medical Laws so as to forbid treatment of the sick by faith-curists and so-called Christian Scientists.

Kirksville, Mo., is said to be in an uproar as to who discovered the science (?) of osteopathy. Dr. Ward has come forward, claiming that he was ahead of Still in the discovery.

The antivivisectionists have imported Arthur Westcott, the English lecturer on antivivisection, to persuade the public that the doctors are cruel and physiology is a farce. He has been lecturing in Boston lately.

In the late damage suit against a Cincinnati gynecologist for leaving a broken needle in the perineum of a patient, a round beefsteak was operated upon in court to show the movements of a needle in flesh.

A suit for \$50,000 has been begun against the

city of New York for the death of a girl by lock-jaw, which it is claimed was due to the use of impure vaccine by the Board of Health in vaccinating school-children.

The Committee of Public Health of the Senate of New York is considering the advisability of preparing a bill for the establishment of a free sanitarium for the consumptive poor to be located in the State Forest Preserve.

The Meharry Medical College of Nashville, Tenn., graduated forty-two Afro-Americans on February 1. Their commencement exercises are said to have been very fine and to have reflected great credit on the colored people of that region.

The osteopaths have started another bill in Iowa to permit them to practice their "science" without regard to the educational requirements imposed on other practitioners. They were defeated in a similar attempt in that State about a year ago.

A bill has been presented to the Maryland Legislature appointing two medical boards, one regular and the other homeopathic. Each will issue permits to practice. Graduates of Maryland medical colleges are not required to be examined, but those of colleges in other States are.

The St. Paul, Minn., barbers lately gave a reception in which part of the entertainment was a lecture by Dr. Burnside Foster on "Diseases of the Face and Scalp." They also discussed the advisability of having the State University establish a chair for the education of tonsorial artists.

Erie County Medical Society of New York has begun a crusade against quacks that must have been long needed, if reports are true. It is said that there are nearly a thousand quacks in Erie County. Two prominent lawyers have been retained by the society to attend to this duty.

The County Board of Cook County, Ill., has offered a reward of \$500 for the arrest of Dr. William Smith, the professor of osteopathy at Kirksville, Mo., for stealing four cadavers from the Dunning morgue. Smith, for the purpose of evading the Illinois law, had himself arrested, tried and acquitted for the same offense by his Kirksville friends.

The American Antivivisection Society lately met in Philadelphia and re-elected Dr. Matthew Woods as president. The doctor is so well (?) posted in physiology and its bearings upon practice that he can see no advantage to medical science from experiments upon animals. Because of this the "Hysteries" delight in making him their chief priest.

The success of the homeopaths in securing the control of the Missouri State Insane Asylum at Fulton has inspired the members of the same school to make a strike for like recognition in Iowa. The new hospital for the insane at Cherokee, they thought, should go to them, but when the issue came up in the Legislature at Des Moines, they lost.

The Bridgeport, Conn., Medical Association has had to give up an attempt it was making to abolish the lodge doctor. All lodge doctors admit that the policy of contracting their services to lodges is wrong, but they say that if they did not take such places others would. As so many are involved in this way, it was found impractical to continue the fight.

London, England, is suffering from an epidemic of grip, in which the disease has a tendency to attack the digestive rather than the respiratory organs. In a number of cases, it is said by the

British Medical Journal, so nearly to resemble typhoid fever that it has frequently been mistaken therefor. In the last week in January there were in London eighty-eight deaths therefrom.

The difference between Dr. William C. Boteler, of Washington, publisher of the *North American Medical Review*, and the H. K. Mulford Company, of Philadelphia, which resulted in the company preferring charges of libel against the former some time since, has been settled out of court. Dr. Boteler, finding that the article published was based upon mistaken data, has published a correction for the Mulford Company.

The physicians of Woodsville and Wells River, Vt., not long ago had a notice signed by all the principal practitioners of that region, printed as a paid advertisement in the *Woodsville News*, informing the public that beginning February 1, their charges would be for day calls, within a mile of their homes, \$1, night calls, \$1.50, and warning delinquents that they would mutually report to each other and refuse to attend all who were bad pay.

Alliance, Ohio, has a regularly appointed township doctor to look after the sick poor, but it is not always convenient for these to get his services. Dr. Ramsay, a physician of that city, was called upon by a poor family to look after them in sickness. The doctor complied with their desire and is now suing the township for \$10 due him for services. He is being backed by the Medical Society. They wish to establish a precedent in such cases.

Illinois has a so-called medical college that is expected soon will be brought to grief by the Attorney-General for parting with diplomas on too easy terms. Its charter shows that it intended to promote "mental and physical culture and teach anatomy, physiology, toxicology, gynecology, materia medica, therapeutics, surgery, chemistry, pharmacy, electrology, magnetology, psychology, chromopathy, using all the finer forces of nature that may contribute to the relief of suffering humanity and promote happiness and longevity and educate the people with the liberal and progressive principles of medicine and science and arts."

A bill has been introduced into the New York Assembly to abolish the office of coroner in Ulster County. Nearly every other county in the State is said to be anxious to abolish this office owing to its great expense. The claim is made that coroners do all in their power to make their fees as many and as large as they can. Comparisons between the inquest system of Massachusetts and the coroner system of New York show that the actual expense of the former is vastly less than the latter for the same number of people. The *per capita* tax to sustain the coroners of New York has been shown to be about seven cents, while that of Massachusetts for its inquests is only one and one-third cents.

The Governor of Louisiana has appointed a new Board of Health for New Orleans, to take the place of those that popular clamor compelled to resign because they permitted yellow fever to enter and spread in that city. The *Picayune* says that "every inhabitant of the city should understand that the paramount interest now is to secure assurance that not only will there be no possibility of any introduction of new infection into the city, but that, in addition, there shall be a certainty that none of the old can survive to another hot season. The failure so far to realize any extreme cold this winter makes it all the more indispensable that the new Board of Health shall set to work to give these assurances."

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EDITORIAL

THE PROPER FUNCTION OF A GOVERNMENT IN REGARD TO THE COMMERCIAL ASPECTS OF ANTITOXINS

WE understand that it is proposed in legislative circles in the State of New York to enact certain laws forbidding, *inter alia*, the production of diphtheria antitoxin by official laboratories, and possibly even attacking the making of bacterial diagnoses in such laboratories. We sincerely trust that any such legislation will be carefully watched by members of the profession who have seats in either of the legislative bodies. It seems to us especially important that there be some clear thinking about the matter, and consequent careful differentiation of the subjects concerning which it is proposed to legislate.

In our opinion—whatever may be the case in some future time when a millennial socialism shall reign supreme among a race that has been freed from all selfishness and self-seeking in the individual—at present it is not expedient for any commonwealth to enter upon the business of the manufacturer; while, on the other hand, it is the duty of the commonwealth to protect its citizens from imposition and cheating at the hands of the manufacturers. The essential duty of the commonwealth is protection of its citizens against robbery and fraud of all kinds; and this duty is just as plainly applic-

able to the producer who would label his oleomargarine "butter," as it is to the burglar who would steal by force what the other man wishes to take by fraud. A Department of Public Safety, under some name or other, ought to deal with each case. Then again, it is right for a commonwealth to protect its citizens against influences not of the nature of fraud, which act upon all members alike of the commonwealth, and which can only be prevented by united action: Hence there should be a Department of Hygiene or Public Health, the title of which is a matter of little importance. The results of the application of these principles to the bacteriological problem are very evident.

Many years ago, the great lexicographer, Dr. Johnson, defined "drug" to be an "ingredient used in physick," and certainly antitoxin comes within the range of such definition. There is plainly no more justification of the official or governmental manufacture of antitoxin than there is of the official manufacture of morphine, quinine, or other medicaments. On the other hand, it is the bounden duty of a Government to see that when a grocer sells sugar, sugar and not sand is sold; and that the apothecary's morphine is pure, and that the antitoxin in the market is what it claims to be. It is indeed asserted that when New York City began the making of antitoxin, which it is proposed to abolish, antitoxin was selling for \$12, but in consequence of the productiveness of the Health Board it is

now sold for \$1.50. Possibly the manufacture of cloth by New York City would reduce its price, but that would be no reason for the city opening cloth-mills. Moreover, it would be very difficult to prove that the fall in the price of antitoxin was really in consequence of the Health-Board production, and that if the matter had been left under proper supervision to commercial laws it would not have worked out as well. It is possible, however, that good may have resulted from the city in an emergency entering upon the production of antitoxin, but assuredly at the present the matter can be left to the manufacturers, properly supervised.

The question as to whether the city ought or ought not to maintain laboratories for the purpose of bacterial diagnosis is not quite so easily answered; certainly, however, such laboratories cannot be considered in any sense of the term "manufacturing" establishments, but may be by the use of a little adroit force pushed into the catalogue of protective measures. They are especially justified by the consideration that the existence of private laboratories for doing the work would require so much and so constant supervision by the Government to see that the work was accurately done, that it is cheaper for the commonwealth to do the work itself than to watch its being done by others. This is especially the case since the official biological laboratory must be maintained for the purpose of testing the antitoxins upon the market.

Research work is done for the general good of the community; it is work which has no direct especial relation to any one member of the community, which when carried out in the proper spirit has no commercial intent or aspect, and which therefore should be fostered and paid for by the commonwealth. European kingly government perceives this truth: is it not possible

that the time may come when through general education and enlightenment Demos may also apprehend it?

LUMBAR PUNCTURE.

IN 1891, Professor William H. Quincke, of Kiel, proposed for the purposes of diagnosis and therapeusis in certain diseases of the nervous system an operation, which, although the subject of one or two reports in America, seems to have escaped attention in most, if not all of the recent American treatises on practical medicine, and which therefore we have thought it might be worth while to draw the attention of our readers. It is the so-called "lumbar puncture."

According to Quincke, in the adult the spinal cord reaches only to the second, in children to the third, lumbar vertebræ, so that when the needle is thrust into the spinal canal through the arachnoid membrane below this point it cannot pierce the spinal cord itself, but will find its way between the various strands of the cauda equina, and at the worst can only prick one of these cords. In performing the operation it has been found by most of the recorders better to place the patient horizontally on his side and to insert the coarse needle or fine cannula (which should be from five to eight centimeters in length) under the skin to one side, and thrust it upward and somewhat toward the central line, so as to enter the vertebral column near the middle. To this cannula is attached a rubber tube, to which in turn is connected a glass tube graded in centimeters; so that when this glass tube is held upward after the insertion of the needle, the internal pressure of the cerebro-spinal fluid can be measured, or by lowering the glass tube the fluid can be drawn off. The operation has been done a large number of times.

Picard reports its use in four cases; Len-

hartz, 230 punctures in 126 patients; Krönig, five cases; Quincke in fifty-three cases; Tobiessen, five cases; Bull, five cases; Babcock, five cases; Deniges and Sabrezès, fourteen cases; and various other observers have stated they have practiced it without stating the number of cases in which it was used. The conclusions of all the observers are fairly uniform. The fluid itself varies in specific gravity from 102 to 111; in turbidity from the clearness of water to the opaqueness of pus; in color from neutral-water tint to yellow or to red; and in the amount that escapes from 3 to 100, or even more cubic centimeters. The normal pressure of the fluid ranges from 40 to 60 millimeters, but in diseased conditions may rise as high as 600 or even 700 millimeters.

From a diagnostic point of view the value of puncture is to be found in its giving a clear knowledge of the pressure and the character of the cerebro-spinal fluid, but this knowledge has not been found to be of as exact diagnostic value as might *a priori* have been expected. The percentage of albumin is of some diagnostic value; if the albumin rises to one-fourth of a part per thousand, inflammation about the brain or spinal cord is indicated, but the indication is not a positive one, since in cerebral tumor and apoplexy without inflammation, according to Lenhartz, the albumin may amount even to so much as four parts per thousand. The specific gravity is without diagnostic meaning. The presence of an abundance of leucocytes indicates inflammation. The color of the liquid has significance, but with distinct limitations; if it be red from blood the existence of hemorrhagic pachymeningitis, or previous injury to the brain, is denoted. If the fluid be thickish, there is probably inflammation, but even in epidemic cerebro-spinal meningitis the flow, although it may be thick, has been found in some

cases only turbid and in others as clear as water.

In cases due to infection the organisms may exist in the fluid in abundance or may be altogether absent. In tubercular meningitis the bacilli have been found in about half the cases studied; so that Stadelmann is correct in asserting that failure to find bacilli in the serous exudate is not proof that a meningitis is not tubercular. In Maragliano's clinic in Genoa, Fränkel's pneumococcus has been detected; while Lenhartz has noted various diplococci and streptococci in the fluid drawn from cases suffering from epidemic cerebro-spinal meningitis. If the diagnosis should in any case rest between a purulent meningitis and an abscess of the brain, a purulent fluid would mean meningitis, but a clear liquid would be negative evidence of but little value; certainly no more than strengthening the probabilities of abscess.

As a therapeutic measure lumbar puncture can scarcely be expected to do more than, by withdrawal of the liquid, relieve an existing cerebral or spinal pressure. In the majority of cases the cause of the excess of fluid is organic and persistent, so that the immediate relief produced by the operation soon disappears in the regathering of the exudate. In Maragliano's clinic, where the operation has been much practiced for the relief of tubercular meningitis, it is considered as a palliative, to be used as a narcotic is for relief of the headache, the stupor, and the delirium. In general paresis its results have been praised by Babcock, especially in times of deep stupor, which almost invariably he found to be due to increased cerebral pressure. In chronic apoplectic hemiplegia Lenhartz found it, as might be expected, of no value. In meningitis the results obtained naturally have varied very greatly with the character of the meningitis; Lenhartz

claims that in five cases of serous cerebro-spinal meningitis (whatever that disease is) cure was apparently obtained from its employment. In two cases at Maragliano's clinic, in which micro-organisms were found in the fluid, after lumbar puncture there was complete recovery, whether due to the puncture or not is unknown, as is sagely stated by the reporter.

The employment of lumbar puncture in uremia would seem to be indicated; Krönig states that he has used it, sometimes with good, sometimes with no results. Schultze calls it white blood-letting. Krönig and others claim to have obtained relief by it in the headache of chlorosis and other functional and organic conditions. After examining the clinical records, however, it seems to us that the operation itself is not entirely free from danger, and therefore not to be used unless the patient's condition is distinctly serious. Ewald asserts he has seen sudden death from it in persons suffering from tumor of the brain; Lenhartz states that he has had death unexpectedly occur in six hours after the puncture; Strom Bull, that he has had in some cases to abandon the operation from the rapid development of alarming cyanosis. Lenhartz has had the needle twice break off in the vertebral column.

All observers agree that the fluid must be allowed to flow away slowly, Goldscheider especially cautioning against aspiration, which he has seen followed by immediate, very serious collapse.

A BAD CASE OF ANTI-LISTER MANIA

A NEWSPAPER-CLIPPING Bureau has lately sent out to the medical press of the United States a copy of a letter written to the President of the Board of Governors of the Women's Hospital of New York. It purports to have been written by a Scotch

gentleman with some reputation in this country as a gynecologist, but chiefly known to fame outside the medical ranks as the author of a pamphlet entitled "The Uselessness of Vivisection upon Animals as a Method of Scientific Research." The letter bears the heading "Statistics of Abdominal Section in America." It is an attack upon Dr. T. Gaillard Thomas, the New York Hospital for Women, and, indirectly through these, upon every prominent American surgeon and gynecologist.

The writer pronounces American results deplorable and murderous, and says: "This makes me more than ever thankful that I discovered the fallacy of this so-called antiseptic craze early in my career." He next proceeds to contrast the results in the Birmingham and Midland Hospital for Women with those of New York and Boston, much to the discredit of the two latter, but to the glory of his own institution. If his figures tell a truthful tale it behooves us in America to make a change quickly and adopt methods that will give better results. If the Birmingham Hospital, under identical conditions except that the treatment differs, shows only a death-rate of from 3.5 to 8.5 per cent., and our best American results are 15.3 to 22.43, he is right and we must bow our heads in shame.

But is this true? We cannot believe that it is. Our reasons for dissenting from the conclusions of the author of the letter may be of interest to him, and probably will be to our readers. Granting that the figures may be correctly stated, only superficial reasoning could ever draw such sweeping conclusions from them. The author nowhere pretends to show that conditions were the same in the contrasted institutions. Figures never lie when applied to conditions that are identical, but they do so notoriously when applied to unlike conditions. It is a well-known fact that whereas

in England most cases requiring operation come into the surgeon's or gynecologist's hands at an early period, and are dealt with at their best; here in America the patent-medicine craze, the Christian-science craze, the osteopath craze, and the horde of unlicensed pretenders hold the patients back from proper treatment until in desperation they are finally compelled to go to the hospital as a last resort. Operations for appendicitis, if performed early, will give low death-rates, but in delayed cases, where peritonitis has set in before the operation has begun, no system of treatment can give good results. It is so with all other operable diseases. Should two New York hospitals give such diverse results the matter would at once assume a serious aspect, but even then it would be necessary to see that conditions were identical.

It has with some show of truth been charged upon some sectarian hospitals that for purposes of contrast with regular institutions they selected their cases, rejecting those that they feared would not bring credit to their doors. We do not say that such a thing was done in the Birmingham Hospital for Women, but knowing what we do about its management, we should want to be assured that a very, very strong personal equation should be eliminated before its results would be considered satisfactory or fit to compare properly with statistics in this country. An institution that wants to make favorable statistics in order to establish the superiority of a method which it thinks disproves the value of vivisection, can easily do so. Cases can be taken that an American operator would not touch, as they really do not need to be operated upon at all. Very bad cases can be advised to go to a rival institution that believes in the work of the physiologists and bacteriologists. We do not say that these plans are pursued in the Birmingham Woman's Hos-

pital, or that any person would be guilty of such conduct, but we do say that it was the duty of the writer of the letter to show or give an assurance that nothing of the kind could have been done. His conclusions are susceptible of this interpretation by any inductive reasoner, and are therefore lame to that extent. During all those years from which the statistics are supplied a reasonable doubt might have been cast upon the institution by a suspicious person or by a reasoner who would leave no theory untried until he had found the right one. The motive certainly was not wanting, and it is not likely that the reasoners we refer to would have failed to see this fact or believed mankind so good that they would not be swayed by desire.

It might be worth while to ask why the author of this letter is willing to pay a liberal sum to a clipping bureau to distribute copies of his letter to the medical and pharmaceutical press of the United States, and to watch for and forward to him all the comments it happens to give rise to. The quarrel into which he has thus injected himself was an American one and of no direct interest to him. We have all along been of the opinion that the itch for self-advertising by medical men was mainly American. This rather tends to disillusionize us.

Has he taken this plan of bidding for a call to this country so as to show us how to get along without vivisection and without Listerism? Do the zoophilists of the United States desire his services? Have they asked him to come here? If he comes we hope that no one will put up alongside the horrid pictures of cruel treatment to animals and the horrid instruments of torture vivisectioners are said to use that celebrated picture that adorned the Birmingham shop-windows. The zoophilists will certainly welcome him if he comes, but he

and they should be given to understand that his plan of treatment is neither more nor less than antiseptic surgery, deny it as they may. It would never do for him to acknowledge this, but it is a fact nevertheless. Instead of using solutions of corrosive sublimate, carbolic acid, or formaldehyd, he has been using liberal supplies of soap-suds. Where is the difference? Essentially they are identical. If a patent had been taken out for Lister's process, our letter-writer would not have dared during its life to have tried the soap-suds plan for fear of infringement. We have all heard of the fellow who stole the livery of heaven to serve Satan in. The doctrine of soap-suds as against antiseptics is very much of a piece therewith. If Listerism had never been promulgated we never should nor could have heard of soap-suds as a modification or substitute. Why then has this man been ever ready to denounce the man who has been the means of saving more human lives than any other who ever lived? Why has he always been ready to oppose his brother surgeons in almost everything? The only one that has seemed to always escape his attacks is Sir James Y. Simpson.

To seek to bolster up the antivivisection fad on the plea that his methods owe nothing to animal experimentation or to the genius of Lord Lister is treason alike to science, common honesty, and common sense. He insists upon the evidence of direct and immediate association of experiments with benefits. If an immediate benefit cannot be shown from a vivisection all benefit is denied. By such a test every physical science could be demolished and the relations of Edison and Bell to Faraday and Galvani denied. Soap-suds and surgery are as indissolubly connected with vivisection and Pasteur as the telephone is connected with the experiments of Faraday or as the sides of an arch with its keystone.

AMONG THE EDITORS

IS IT NOT SURPRISING ?

There is perhaps nothing connected with the medical profession which is a matter of greater surprise to the public, as well as many members of the profession, as the fact that so large a proportion of physicians, in their intercourse with their patients, are absolutely silent regarding the baneful effects of tobacco, alcohol, gormandizing, midnight feasting, and sundry other common vices which almost everybody condones. The physician is certainly not bound to live more circumspectly than other members of a community except so far as increased light and knowledge bring increased obligations. The man who preaches is under no greater obligation to practice his own preaching than the man who hears it and recognizes the truth thus made clear to him. Obligation comes, not with the expression of truth, but with the recognition of it. Nevertheless, it is the duty of every physician who recognizes the baneful effects of evil practices to raise his voice against them, even though he may not himself conform to what he believes and knows to be the highest ideal of conduct.—*Modern Medicine*.

MEDICAL ETHICS

The erroneous idea that the difference between the so-called "schools" of medicine is merely one of method, as in the case of religious denominationalism, is too absurd to be tolerated amongst educated people, and especially medical men, however much leniency might be shown toward the public for the same offense. It must be realized that the difference is one of vital principle. The irregulars are themselves to blame for whatever of discomfort and ostracism exists. Any man or woman engaged in the practice of medicine on a scientific basis must have at least sense enough to know that progress is an essential contingent, and that to have it forestalled by any pre-announced limit, as indicated by the acceptance of any scholastic dogma, is suicidal.

There is nothing in the generally accepted

code of ethics to prevent a man's entertaining, in a provisional way, any opinion he pleases. Indeed, it is his duty to act upon any such conviction in a practical way. But that does not justify him in jumping to the conclusion that he is right and everybody else is wrong, and that he must, therefore, hedge himself about by a distinctive "trade-mark."—*Pcoria Med. Jour.*

SUMMONING A PHYSICIAN

While physicians rarely refuse to answer a worthy call, they are in no sense obliged legally to respond. Attempts to make laws compelling them to come when called have in no case been successful. The public is ever ready to summon a physician when he is supposed to be needed, but it should never be forgotten, when the demand for a physician is made, that some one is legally responsible. But in cases of an injury when unconsciousness supervenes, the patient has no power to ask for help, and therefore in an emergency almost anyone offers to call the physician without considering on whom the responsibility rests.

In a recent action by a physician to recover compensation for his professional services it was held that the one who requests a physician to attend another person professionally without disclosing the fact that he acts as agent or messenger is liable for the physician's charges. Physicians rarely dispute such refusals to pay, and, as a rule, are the losers in transactions of this kind, but their rights in the matter should not be forgotten, and they should not be imposed on simply because they are generous enough to respond to calls of assistance without further questioning.—*Maryland Med. Jour.*

AN OVERCROWDED PROFESSION

There are now about 6100 medical men in London, about 15,400 in the rest of England, about 1100 in Wales, 3400 in Scotland, and 2600 in Ireland. In other words, there are 28,000 practitioners for the forty millions of the population of the United Kingdom. Excluding the 300,000 who are in the workhouses, asylums, and prisons—paupers, imbeciles, and criminals who are under public care—and at least twelve mil-

lions of the industrial and agricultural classes who cannot possibly be remunerative patients, it becomes evident that, on the average, each practitioner has less than 1000 possible patients. When the average yearly illness is remembered and the average fees for attendance, it requires a very slight knowledge of arithmetic to prove that the average practitioner can only with the greatest difficulty earn a sufficient livelihood.

It is beyond all dispute that the profession, then, is extremely overcrowded; but what are the chances of this condition of affairs being remedied? It is distinctly to the interest of the medical corporations, which exist upon the fees paid by each candidate for examination, to increase the number of those entering the profession, rather than to throw the slightest obstacle in their way. And herein is made evident the grave danger and detriment of the many licensing bodies.—*Med. Times and Hosp. Gaz.*

AUTHORITY IN THE MEDICAL WORLD

Authority in the medical world is worshipped as in the theological world. It is almost as changeable. What is offered today is accepted if it comes from a well-known author and recent text-book. It is liable to be displaced to-morrow by the product of a more modern investigator. We are in search of new things continually. Opium, chloral, sulfonal, paralyze nerve-centers and invite sleep, but we want a new hypnotic that will do the work better, and at less risk of life.

The undomesticated animal in field or forest, lives his full years, barring accident and starvation; normal sleep comes, normal exercise and normal appetite come. Nature endowed animal life with needs, and with self-helping capacity to supply needs.

Man is now born and reared in an atmosphere of disease germs with pathological outlines and organs visible on every hand from infancy up. The doctor and the trained nurse will soon be part of every regulated household. Is it strange then that we still regard disease and suffering as a part of God's ordained provisions, and medication a complementary part?—*Charlotte Med. Jour.*

CURRENT TOPICS

A NEW METHOD OF BACTERIOLOGICAL DIAGNOSIS OF LEPROSY

Dr. L. F. Alvarez (*Pac. Med. Jour.*, Vol. XII, No. 1), who, through his residence in the Hawaiian Islands, has had the opportunity of viewing many cases of leprosy, has realized the necessity, and at the same time the difficulties of early diagnosis in this disease.

Clinically, this is always very difficult, and the same is true of bacteriological examination, especially in non-tubercular cases. After careful investigation Dr. Alvarez adopted the following plan, which has in his hands proven very satisfactory.

The skin or other tissue that is to be examined is removed and washed in normal saline solution and roughly triturated in a small mortar until a homogeneous solution results, enough saline solution being added from time to time as the trituration goes on, to keep the specimen from drying.

When the trituration is completed, a small quantity may be transferred to a thin cover-glass, dried in the air, fixed over the flame of a Bunsen burner or an alcohol-lamp and stained with carbolfuchsin, warming it over the flame for two or three minutes, then washing it in water, decolorizing, and counterstaining with Gabbet's solution of methylene-blue and sulphuric acid for thirty seconds, washing it again in water, drying it with blotting- or filtering-paper, mounting it in Canada balsam, and examining with an oil-immersion lens. The bacilli will appear as purple rods, while the rest of the field will be blue. If there are very few bacilli in the specimen examined they may not be seen without adding more saline solution to the triturate and submitting it to a centrifugal machine. Physicians who do not possess a centrifugal machine may place the solution in a conical glass and allow it to settle for twenty-four or forty-eight hours, then the sediment may be transferred with a pipette to a cover-glass, dried in the air, fixed and stained in the manner already described.

If the tissue to be examined has been kept in alcohol, it ought to be immersed in water to remove the alcohol so as to soften it and to facilitate the trituration.

The bacilli may also be found in doubtful cases by boiling the skin or tissue before it is submitted to the process of trituration. If no bacilli can be seen, digestive ferments may be added and the trituration placed in the incubator, in a conical glass, and the

sediment again examined. The bacilli found in specimens of skin where they could not be demonstrated by examining thin sections, often differ in their morphology and staining properties from those found in tubercles and in new lipomas. They are, as a rule, thicker and sometimes shorter, of irregular outline, and do not take the stain uniformly, often showing vacuoles. They are probably dead.

Among the many advantages of this method, the following may be enumerated:

1. Certainty of success in finding the bacilli, if present; for every particle of the tissue may be brought under the field of observation in a layer thinner than any section that can be made with the best microtome.

2. A diagnosis may be made in a few minutes; instead of waiting several days for the tissue to harden in alcohol or other fluid, before sections can be made with the microtome.

3. The preparation and staining of cover-glasses take less time and are more certain of success than the tedious process of staining and mounting sections.

4. By this method physicians who do not possess a microtome or laboratory facilities, can make a speedy and positive diagnosis.

U.

THE PERIOD AT WHICH OLD AGE BEGINS

Dr. Lease, medical examiner, in the *Jour. of the Am. Med. Ass.* (Vol. XXX, No. 8, 1898), argues that age sets in indefinitely when the forces begin to flag. Some men are twenty years younger physically and mentally than other men of the same age. It is self-evident, then, that old age does not begin at any set time, so far as the divisions of time divide the periods of life, but that it has to do with that subtle agent known as the vital force, an acquaintance with which enables the analytical mind to become proficient in prognosis by weighing in the balance the vitality on the one side with the pathology on the other.

The indication of old age may be noticed by ocular inspection. The figure stoops, the walk is less elastic, the rounded figure gives place to the spare habit of body, the wrinkle of time mounts the cheek, while the frost of many winters mantles the brow. The typical healthy person who attains old age is spare of body, and old age emphasizes this fact by causing a paucity of adipose tissue. So the wrinkle of time, after all, is kindly in nature. Physiologically, we notice that a diminution of the physical energy is accompanied by a corresponding diminution of the power to eliminate waste material from the body. Elasticity and strength give place to hardness and brittle-

ness of nearly all the tissues of the body. The general health may be good, because there is a harmonious balance between the action of the nervous system and the circulatory system. However, the former is less responsive to external stimulation, and the latter is less vigorous in old age. The vital processes conducted by the circulation, respiration, and metabolic changes in the tissues are less active. There are diminished adaptability of the whole system to changes in the environment, and less ability to meet the requirements of emergencies, such as sudden demands of muscular and mental strain.

The senile conditions and diseases are numerous and obvious. In the first place weakened digestion and assimilation; the weakened vigor of the circulation and glandular system necessarily weakens the power of eliminating the excrementitious substances, which gives rise to pernicious nutrition, and that in turn is the cause of the tendency to develop malignant or benign growths in different parts of the body in old age. The strong tendency to over-eat and under-drink, together with the natural decline of functional power, gives rise to a condition of lithemia, which is the prime cause of the majority of deaths in old age. In the healthy state that great glandular furnace and chemical laboratory, the liver, is capable of transforming an excess of nitrogenous matter, which may result from metabolism of tissue or exist in the food consumed, into the highly soluble excrementitious substance known as urea. This excrement is eliminated from the blood mainly by the kidneys, and to a much less extent by the skin. Now in old age, with the functional power and natural vitality on the wane, together with the strong tendency to overtax this function of the liver, we find this waste is not converted into urea, but into uric or lithic acid, a comparatively insoluble excrementitious and toxic substance, which if it appear in the blood in sufficient quantity, and is long enough continued in circulation through the urinary tubules, sets up irritation and inflammation, which inevitably impairs the function of the renal epithelium, and we find this poisonous substance is not eliminated from the system, but accumulates in the blood. This explains why old people are almost universally troubled with disease of the liver, kidneys, bladder, and prostate gland. The unstable circulation, atheromatous changes and brittleness of the walls of the blood-vessels, with the tendency to overtax the digestive apparatus, is the cause of many old people going to "that bourne from which no traveler returns," by the

apoplectic route. Hereditary diseases naturally manifest themselves when the vitality is upon a low plane, when the general health is below a certain level; so we are not surprised to find certain dyscrasic and latent tendencies manifesting themselves at this period of life when the natural vitality is waning. The diseases most frequently found to be the cause of dissolution among the aged are pneumonia, diseases of the liver and urinary organs, consumption, cancer, apoplexy, gangrene.

The enemy to longevity, the author continues, is self-indulgence. People who have reached an advanced age may prolong their lives and greatly add to the comfort of their declining years by diminishing the quantity of food ingested; by taking only easily digestible food; thereby avoiding too large a residue of waste matter, either in the intestinal canal or in the form of excrementitious matter in the blood. S.

IS THE RÔLE WHICH THE ACCESS OF OXYGEN PLAYS IN FAVORING INFECTION SUFFICIENTLY EMPHASIZED?

According to the *Medical Review*, December 18, 1897, Lister's wound-treatment was based upon the principle of excluding germs contained in the air from the surface of the wound, and upon this was also based the use of antiseptic sprays. Most astonishing results have been obtained in the treatment of gunshot wounds of joints by sealing the wounds with an appropriate dressing for the exclusion of air. The exact rôle which the exclusion of air, or rather oxygen, plays in influencing the healing of a wound has, however, never been satisfactorily demonstrated until the subject was investigated by means of animal experiments. By this method of scientific research the fact has been demonstrated that, under ordinary circumstances, it is not alone the entrance into the tissues of such germs which usually cause inflammatory processes of a more or less intense nature, but that in addition to the entrance of such germs there must be, as a rule, a free access of oxygen to the focus of infection or inoculation. The injection into the tissues of a virulent culture of pyogenic micro-organisms does not, ordinarily, produce a suppurating inflammatory focus—an abscess, unless air (oxygen) be admitted to the focus of injection. The only exception to this rule seems to be the injection of virulent cultures under such circumstances that there is a presence of toxins. The speedy sewing up of a wound is just as much an aseptic procedure in the sense of keeping out the oxygen of the air as preventing an access of pyogenic micro-organisms. In the teaching of aseptic sur-

gery, and also of midwifery, the rôle which the access of air (oxygen) to a wound plays in favoring injection is, as a rule, not sufficiently emphasized. Judging from experimental research, as well as clinical experience, this rôle would appear to be of overshadowing importance. The clinical experience gathered in the Crimean and the Franco-German wars first induced surgeons to abstain immediately after an injury to search for a bullet which had entered the tissues, unless it was readily removable. Much probing and searching for the bullet was then and is now considered bad practice. A bullet, shot from a gun or pistol, is in itself aseptic; it is only the piece of cloth or other organic material which is carried into the tissues with the bullet from which a future serious inflammation may result. If such organic material happens to be sterile it will remain in the tissues as a harmless foreign body. To allow the access of air to a foreign body embedded in the tissues which is not easily removed, often means to subject the patient to unnecessary danger by meddlesome surgery. There is a slight analogy between the access of oxygen to a focus of pyogenic organisms in the living tissues, and the admission of oxygen to a faintly glowing piece of coal or me' l.

L.

MODIFIED RESPONSIBILITY

A note by Dr. H. E. Allison upon this subject appears in the *Am. Jour. of Insanity* (Vol. LIV, No. 3).

A case has recently come before the courts wherein an uneducated deaf mute was accused of crime; being unable to read or write, and having no knowledge of the sign-language, he was thus without means of communication with counsel and could plead neither guilty nor not guilty. He could understand but little, and that only through persons who had known him for years. Consequently, being deprived of his legal prerogatives, he could not be tried.

His intellectual and moral faculties being entirely undeveloped, and his capacity with reference to a knowledge of right and wrong being *nil*, he was declared irresponsible.

In 1871 a similar procedure was followed in the State of New York. An indictment for murder in the first degree was pending against B., and the court, having inquired into the defendant's sanity, found him to be an uneducated deaf mute, and thereupon committed him as a lunatic to a State asylum.

B., at the time of the commission of the crime, was twenty-five years of age, and was one of two illegitimate brothers born of a

negro mother. He was active and industrious, cheerful when not crossed, but possessed of a quick and violent temper, and had been reared at the county almshouse.

His mind was in the undeveloped state of young childhood. Early in life he was bound out to a wealthy farmer, with whom he lived. Becoming enraged at the loan to a neighbor of a yoke of oxen to which he was much attached, he killed his employer by splitting open his head with an axe.

He has now remained in custody for twenty-six years. During the early part of his confinement he was subject to sudden outbursts of anger whenever he fancied he had a grievance. His petulant temper rendered him unreliable, but as time passed he became less ungovernable, and during recent years he has been a very competent teamster about the farm (at the Matteawan State Hospital), never trusted alone, but in company with some one who understands him, he is able to perform a full day's work with his team, and is a strong, willing, and careful laboring man.

Such cases illustrate what is sometimes termed "modified responsibility," as shown in idiots, imbeciles, deaf mutes, and others. Crimes of a less serious nature than homicide are often committed by them, and the degree of responsibility is a question which may properly be determined by a jury. The defendant may be committed with justice, as circumstances require, either to an institution for feeble-minded children, to a custodial home for idiots, to an industrial or to a special school; to prison, or to a hospital for the insane.

When such cases come before the criminal courts they only forcibly illustrate what the medical profession, and especially the alienist, has long advocated, namely, that the status of the individual should be carefully considered in examining every problem of crime.

The personality of the man should weigh largely as a factor in determining what disposition should be made of him; whether to commit him to an educational institution, to a reformatory, or to a hospital for the insane. His future liberation should depend upon his development and advancement along educational lines, intellectual, industrial, and moral. It is not just to commit all such offenders to prison for a term of years, nor to send them all to lunatic asylums to remain until recovery takes place. They should be held until, in the judgment of the court, or of some competent authority, it is proper to release them.

In dealing with the defective and the degenerate classes, justice should be tempered with wisdom and mercy.

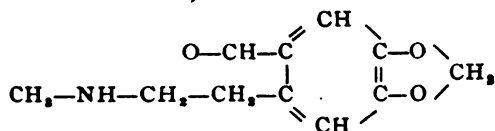
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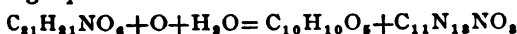
NEW RESEARCHES UPON THE THERAPEUTIC AND PHYSIOLOGICAL ACTION OF HYDRASTININE HYDROCHLORATE

By DR. T. ROUBAO

HYDRASTININE is an alkaloid that can be considered as the methylene ether of pyrocatechin in which two atoms of hydrogen have been replaced on the ortho-position of the radical C_6H_4 by $CH_2-CH_2-NH-CH_2$ and the radical aldehyde (CHO), respectively. Hence the rational formula would be the following:



It is obtained from the alkaloid hydrastine by oxidation. This alkaloid is extracted from *Hydrastis Canadensis*. The hydrastine is decomposed into opionic acid and hydrastinine in accordance with the following equation:



Hydrastine + Oxygen + Water = Opionic Acid + Hydrastinine.

In therapeutics the hydrastinine hydrochlorate is used almost exclusively, and this in a pure state appears in the form of acicular slight-yellow crystals. It possesses a very bitter taste, does not lose its water of crystallization at 100°C ., and melts, with decomposition, at 205° to 208°C . It is very soluble in water and alcohol, the aqueous solution being yellow and possessing an intense blue fluorescence. For some years hydrastinine hydrochlorate has been the object of numerous clinical researches by Falk, Gottschalk, von Kallmorgen, Strassman, Czempin, Emmanuel, Faber, Abel, Baum, Archangelsky, Landau, Von Wild, Kisseleff, and Hausmann. It has been recommended not only in hemorrhagic diseases of the genital organs, but in the treatment of endocarditis, Werlhoff's disease (purpura hemorrhagica), pulmonary tuberculosis, and epilepsy. Although authors are unanimous in attributing to hydrastinine hydrochlorate a salutary effect in many of its applications, opinions are apparently di-

vided and even contradictory in others. At any rate, they are far from being in accord upon the rapidity, mode of action, and concomitant effects.

We have in our turn tried this remedy, still so little employed in our day, in all such affections as it has been shown to be distinctly efficacious, so as to fortify and augment the already reported observations. We have also made many trials in diseases against which it has theoretically seemed to us that it should be beneficial because of its analogy with the alkaloids of hydrastis or because of prior experiments. We have administered the hydrochlorate in pills, powders, and in solution hypodermically in daily amounts of 10 to 15 centigrams ($1\frac{1}{2}$ to $2\frac{1}{4}$ grn.). In our attempts to combat the profuse sweats of tubercular patients we have given as high as from 35 to 40 centigrams ($5\frac{1}{4}$ to 6 grn.) in one to two hours. The number of cases that we have thus treated is thirty-two, and they include.

I.—Uterine affections with abnormal hemorrhage, seventeen cases.

II.—Pulmonary tuberculosis, accompanied by profuse night-sweats, nine cases.

III.—Hemoptysis, two cases.

IV.—Epilepsy, two cases.

V.—Nephritis, two cases.

Without stopping to describe each of the cases separately, our results can be summed up in the following manner. The seventeen cases of genital affections are divided as follows:

1. Pure uterine congestions, two cases; one cured in two days the other in six.
2. Profuse menstruations, three cases; in the first the cure occurred at the first menstruation, in the second after the second and third menstruation, and in the third case after the fourth and fifth menstruation.
3. Profuse hemorrhages at the first menstruation after abortion; one case cured in about three days.
4. Hemorrhage following one accouchement and one miscarriage,

- two cases; the first arrested in four days and the second in seven days.
5. Hemorrhages accompanying uterine displacements and affections of the adnexa, three cases; the first cured in one and a half days, and the second in three days. As regards the third case we can only report that it was improved in about three days, after which time we lost sight of it.
 6. Uterine myomata, two cases, in which the results are very doubtful.
 7. Uterine carcinoma, one case, in which hydrastinine produced no diminution in the loss of blood.
 8. Hemorrhage during pregnancy, one case, in which the losses ceased, the pregnancy continued and the delivery was normal at term.
 9. Hemorrhage during the period of delivery, two cases, in which the contractions became strong, hemorrhage ceased and involution was perfect.

We do not wish to exaggerate the demonstrated value of hydrastinine hydrochlorate, but from our own personal experience permit us to draw the conclusion that it acts very favorably in combating the various hemorrhages resulting from diseased conditions of the genital apparatus, and particularly all pure uterine congestions and profuse menstruations. In myomata and carcinomata of the uterus its effects are nil. An important fact to be noted is that hydrastinine does not exert, even in strong doses, any baneful effect on the gravid uterus. It neither provokes abortion nor premature delivery. We had evidence of this in a patient that had been pregnant seven to eight months, to whom on different occasions we administered as much as 30 to 40 centigrams per day ($4\frac{1}{2}$ to 6 grn.). It seems to act very favorably during the progress of labor, and particularly in the fourth period. Up to the present time we have found no evidence that would lead us to think that it produces uterine contractions. The same modifications of the uterine circulation as are observed to take place

in pathologic cases under its action likewise occur by its aid in the normal uterus during menstruation, so that there is a diminution in the physiological losses.

Our observations upon its effects in combating the night-sweats of phthisis are the first that have been made in this direction, and are already quite numerous. The results are certainly encouraging. In nine cases already published there were but two failures, and in seven others we have been able to diminish and cause to disappear normal perspiring. The effect of the hydrastinine is sometimes temporary and sometimes lasting. In combating perspiration it seems to exhaust its power, its antidiaphoretic action is, therefore, as might have been expected, not always apparent. In this it resembles agaricine, camphoric acid, atropine, etc., etc. In certain choice cases where the other diaphoretics produce no effect or are contraindicated, we advise recourse to it. In hemoptysis we are very reserved upon the subject of the efficacy of hydrastinine, and we recommend prudence in its use as expectoration becomes more difficult, necessitating greater effort at coughing. It seems to us very questionable as to whether hydrastinine hydrochlorate has any influence upon essential epilepsy. At any rate, we deem it inferior to that of the bromides. We note without conclusions two cases of nephritis happily influenced by the use of hydrastinine.

Neither the dose of the hydrochlorate nor of the alkaloid has yet been positively determined for man, but the maximum may be placed at from 30 to 35 centigrams ($4\frac{1}{2}$ to $5\frac{1}{2}$ grn.) taken by the mouth in one or two hours. From 40 centigrams (6 grn.) appear symptoms of intoxication, fatigue, paralysis (especially noticeable in the inferior members), and cutaneous hyperesthesia. In even very large doses it does not exercise any influence on the appetite and does not produce nausea, vomiting, or other such gastric phenomena. Upon the site of hypodermic injections, aside from a little pain, we have noticed no objectionable results, such as induration or insensibility. Once only we have seen a small ecchymosis. We are, however, satisfied with the administra-

tion by the mouth unless in very urgent cases, and would recommend its administration in the form of pills in preference to any other form.

Regarding the question of the permanence of its effect, it seems sufficient to say that the drug is in no sense a specific. After filling a symptomatic indication, its curative action is no more than that of any other symptomatic medicine. If the symptoms combated by hydrastinine constitute in themselves the disease (pure uterine congestion, profuse menstruation, etc.), then the cure will be complete. If, on the contrary, it is only part of the syndrome, the disposal of which does not modify in any essential manner, the evolution of the morbid processes—in one word if the cause persists—it is evident that hydrastinine only constitutes a provisional form of treatment that it will be necessary to supplement with the more efficacious means of curettage, castration, etc.

In view of the therapeutic effects manifested by hydrastinine, it is well to inquire into its physiological action in order the better to be able to prescribe it rationally. In order to settle this question satisfactorily to ourselves, we have appealed directly to animal experimentation, as has been done before by Falk, Marfori, Archangelsky, Von Bunge, Kiseleff, and Devos. In this report we only present the new facts that have become apparent from our personal researches, and in the discussion insist upon some points which we have been forced to accept. Hydrastinine has in general shown itself to be a paralyzing poison, but, contrary to the affirmations of those who have written upon the subject before, its depressing action is preceded by a period of excitement, slight, it is true, but notable. Even in such animals as the pigeon, hydrastinine constitutes a veritable excitant and produces tetanic spasms, limited usually to the posterior members.

There are two points of great importance in the action of drugs that should be studied in this connection. These are their cumulative action and their ability to establish a habit. Experiments upon animals indicate that hydrastinine produces the phenomena

of cumulation rather than that of habit. We confess, however, that our observations of chronic and prolonged intoxications, our studies of assimilation and of disassimilation, and our microscopic examinations of microscopic preparations of different organs have never revealed to us very marked disturbances. Hydrastinine increases cardiac activity. Small and medium doses of from 1 to 10 centigrams (1-7 to $\frac{1}{2}$ grn.), when given as intravenous injections, produce in dogs, rabbits, and cats weighing from 2 to 3 kilograms (from 4 1-5 to 6 1-3 pounds), an acceleration of the cardiac movements, a decrease in the amplitude of the pulsative waves, a constant and permanent elevation of the minimum pressure and a slight elevation of the maximum pressure. The elevation of pressure, though real, is nevertheless scarcely noticeable, owing to the pressure at the moment of injection being abnormal in consequence of the state of excitement in which the animal used is found. The elevation becomes much more noticeable if it is first lowered artificially to the ordinary normal level. Among the various means that could be adopted we have preferred bleeding, which gives us conditions like those of our patients that have had copious hemorrhages. Let us say here that the abstraction of blood even in small amount, contrary to the opinions that have become classic, produces persistent lowering of the blood-pressure, as we will prove by numerous experiments about to be published in a research that will appear shortly in fascicles V and VI of Vol. IV of the *Archives Internationales de Pharmacodynamiques*. Not only the intravenous injections, but also the hypodermic injections of hydrastinine hydrochlorate rapidly bring back the blood-pressure to and beyond its normal level after very serious hemorrhages. We believe that this drug acts at the same time upon the heart, the vaso-motor center of the medulla oblongata, and the vascular walls themselves, so as to produce these modifications of blood-pressure. The elevation of the pressure seems to us to be due to a contraction of the abdominal vessels. We were able to convince ourselves of this by what was at once a very simple and very

practical method. We opened the abdominal walls of animals below the umbilicus, and between the lips of the wound introduced a large watchglass as a window, with the convex surface directed toward the exterior. As we chose by preference for these experiments pregnant female rabbits, we were able to study also the action of the hydrastinine upon the gravid uterus. This series of interesting experiments enabled us to demonstrate positively that hydrastinine provokes vascular contraction on the side of the genital organs and the intestines. Our clinical experiences caused us to think that hydrastinine does not provoke uterine contractions, but these experiments on the gravid female rabbits induce us to abandon this way of looking at the matter. They showed us that it awakes in the uterus repeated and prolonged contractions of a physiological character. Hence there is nothing astonishing if the drug possesses such rapid and efficacious action on different uterine affections, accompanied with hemorrhages. It fills every indication favorable to the checking of hemorrhage, viz.: constriction of the vessels and uterine contractions. But how are we to reconcile the facts of the clinic and those of direct experiment? We know that the uterine contractions are an inherent physiological function of that organ. They produce themselves not only during pregnancy and labor, but also at times when there is no gestation. Such contractions being painless pass unnoticed by women who are not supersensitive. There is therefore nothing remarkable in the fact that the uterine contractions provoked by hydrastinine through their being analogous to the normal or physiological contractions, and being wholly free from the tetanic character of those produced by ergot, should, as is the case with the physiological ones, be imperceptible to the women who have taken it. We believe, therefore, that in spite of the absence of subjective symptoms, hydrastinine provokes uterine contractions, but so feeble are they that they awake no pain, produce no abortion, and hasten no premature labor in women that are not predisposed in that direction. During labor it intervenes in an

active manner to re-enforce the too feeble contractions and reanimate those that tend to disappear.

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Spasm of the Pylorus

Dr. Doyen (*Méd. mod.*, No. 43, 1897) reports that out of one hundred operations on the stomach, performed for the relief of symptoms resembling those of cancer, forty-six presented a mere spastic contraction of the pylorus, without ulceration or cicatrices. He believes that in case of spasm of the pylorus, due to hyperacidity, there is usually no vomiting, but on taking the smallest particle of food the patient suffers excruciating pains. In the treatment of spasm of the pylorus he advises a careful regulation of diet and internal medications before a gastro-enterostomy should be resorted to.

S.

SELECTED PAPER

THE POSITION OF GYNECOLOGY TO-DAY*

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THE advance of gynecology has taken place on two distinct dual lines, the physiological and the histological, the pathological, and surgical. The first includes our better understanding of the physiological correlations of the uterus and its adnexa, the function of menstruation, the nervous influences at work in securing the evolution of this process, the primary and secondary reflected impulses and disturbances that follow upon its normal or abnormal performances, and the histological changes that occur both in the uterus and adnexa necessitated by the rhythmic occurrence of the function of ovulation. We are also better acquainted with the correlation that exists between embryonic development and arrest of development in the generative organs, and the pathological conditions found in adult life. Take, for example, cystic conditions of the parovarium and vagina in their relation to Skene's and Gartner's ducts;¹ cysts, pedunculated and otherwise, of the mesometrium in their connection with the Wolffian duct and the Morgagnian cysts;² accessory Fallopian fimbriæ and their derivation from Kobelt's tubes;³ dermoid cysts of the oöphoron;⁴ abnormal glandular conditions found in the cervix uteri and its epithelium, which bring about that condition which has been called by Fischel "congenital physiological ectropion," and the defect in the transformation of Muller's epithelium as a predisposing cause of pseudo-ulceration in the cervix.⁵

It is, however, in the elucidation of histological changes which occur in the cortex and parenchyma of the ovaries that we perhaps chiefly realize the importance of the histological advance that has been made. Witness the tracing out of the processes which lead up to non-cystic and cystic ovaritis, and which assist also in differentiating, histologically, dropsy of the follicles from dropsy of the stroma, and the origin of

hematocysts in the follicles, corpora lutea or stroma, as well as the part played by the stroma of the ovary in neoplastic formations, sclerotic and cirrhotic changes. In like manner a more accurate knowledge of the structure of the tubal walls, in the distribution and position of their muscular layers, their myxomatous connective tissue, and their vascular supplies, as well as the plicated arrangement of the mucous membrane, has led to a clearer understanding of the alterations which occur in catarrhal and interstitial forms of salpingitis, and the distinction between endosalpingitis of the parenchymatous and atrophic forms.⁶ The advance on the pathological side has been of too vast a nature to attempt to discuss it fully here. I may mention a few of the pathological gains which have followed from the laborious researches of pathologists, especially in the French and German clinics, viewed from the light of the clinical advantages that have resulted from these. There is the recognition of the various causes in the adnexa and uterus which have led to a clearer differentiation of the secondary conditions, both in the uterus itself and in the adnexa, which follow in the wake of backward displacement and flexion of the uterus; the division of chronic cervical endometritis into its various forms; the pathological consequences of laceration of the cervix, and the more correct teachings on the subject of erosion associated with glandular and follicular degeneration of the cervix. The sources of perimetritic inflammation and pelvic suppuration are now clearly understood. The causes of pelvic hemorrhages, whether those connected with pregnancy or otherwise, can be systematically defined and classified. We no longer speak of a mysterious hemocele, which includes any or every escape of blood in the pelvic basin. Gradually has the pathology of fibro-myomatous tumors of the uterus, both as regards the elements from which they grow, their mode of growth, as well as the influences brought about by pregnancy and the menopause upon their development, led up to their pathological, anatomical, and histological classification. The manner in which tuberculosis attacks

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the uterus, and the histological appearances which follow the tubercular infection, have been carefully described.

And now we come to that subject which has, perhaps, led to more contentious disputation than any other in the pathological field of gynecology. I refer to the whole question of the histology and pathology of malignant degenerative changes and growths in the uterus and adnexa. Fortunately, the enormous amount of clinical material on the one hand, and all the microscopical research on the other, which has been brought to bear on the entire subject, has, for all practical purposes, settled certain vexed questions and determined the lines of treatment. Time will permit of but a bare reference to a few of the more important of these pathological points. Cancer, it has been shown, affects the body of the uterus much more frequently than it was supposed to do. The nature of the lymphatic supply, and the character of the lymph-currents in the uterus explain this. It has also been proved that cancer may have its origin in the connective tissue. We do not now permit any "old-fashioned" views as to the limitation of carcinoma of the uterus to the cervix to influence us in pursuing old-womanly methods in dealing with a disease so destructive to human life. We know that cervical cancer does frequently invade the fundus, and though we may clinically distinguish carcinoma from epithelioma of the cervix, we do not permit clinical distinctions between cancrroid, carcinoma, and sarcoma to influence our operative procedures. Scirrhus is comparatively rare as compared with the other forms of malignant growth. Malignant adenoma of the cervical glands is also extremely rare. Sarcoma, for all practical purposes, from a clinical point of view, has to be regarded in the same light as carcinoma, but the differentiation of the disease from cancer will always be a matter of considerable difficulty, resolved only by means of the microscope, the symptoms depending so much upon the situation of the growth, whether sub-mucous or parenchymatous. It is now a settled fact that a fibro-myomatous tumor may change into a

sarcomatous, and that the time of the menopause is the most likely for such a metamorphosis to occur. For myself, I am not inclined to believe that the simple erosions of the cervix degenerate into malignant conditions as often as by some they are said to. I am rather inclined to view the eroded malignant surface as the consequence of a pre-existing malignant change in the cervical glands. I regard a follicular degenerative state with accompanying engorgement of the cervical tissues, often met with in women over forty, as one of the most serious premonitory or predisposing signs of such malignancy. The part played by secondary epithelial formations, which have been by some regarded as parasitic, is still a vexed question, but that cancer is spread by the lymph-vessels is certain. There is this comforting reflection, that there is not the same rapidity of dissemination in the case of the uterus as in that of the mammary gland, and the involvement of other organs is comparatively rare. The danger of confusing fungous endometritis, which is not of a malignant nature, with fungous growths which are, and the risk of the same error being committed in the instance of hemorrhagic endometritis, and the importance of a careful microscopic test after curettage are widely recognized and acted upon. The most important recent addition to the pathology of uterine malignant disease is the description of the decidual degeneration included under the head of "deciduoma malignum." I confess myself a convert to the view that the pathological changes, as shown by the microscope, in the characteristic giant cells, the indeterminate diffused small round sarcoma-cells, the neoplastic tissue-elements, are characteristics of the decidual growths, though it is probable that a simple sarcoma may occasionally be classed as being of the former type. Meyer and Sanger in Europe and Whittaker Williams in America were the earliest observers of this condition.⁷

Turning to the ovaries, we find that in addition to the important investigation into the pathology of ovarian cystoma, the nature and development of such cysts are understood, as are the consequence of their

rotation and the causes of their suppuration. The rare forms of disease, fibroma, myoma, sarcoma, endothelioma, papilloma, gyroma, angio-sarcoma of the ovaries, have been recognized, laboriously investigated, and described. Further, the clinical signs and symptoms of these diseases have been recorded. It is due to Dr. Mary Dixon-Jones, of New York, to acknowledge the admirable original work she has done in this field of pathology. Her researches into the nature of endothelioma of the ovaries, gyroma, and the origin of cancer in the connective tissue and lymphatics have been of the highest order.

The cystic degenerations in ovaritis, whether as affecting the follicles or the stroma, are among the most interesting of the pathological developments. This applies to hydro-cysts, hemato-cystic or apoplectiform, and pyo-cystic ovaritis. It would be unjust here if I did not mention the names of Bland Sutton, and Alban Doran, of this country, Nagle, Gusserow, Olshausen, and Petit, abroad, for the work they have done in the elucidation of these diseases.

Nowhere has the progress of pathological gynecology been more marked than in the instance of the Fallopian tubes. This progress has brought us a complete systematic classification of the diseases of these structures, acquaintance with the nature and consequences of their bacteriological invasion by pathogenic and non-pathogenic organisms, the far-reaching gonorrheal infection, the effects of the closure of the Fallopian ostia. The correlation between metritis, perimetritis, salpingitis, and ovaritis in their causation and consequences, has led to a clearer understanding of the development and course of suppuration generally, and enforced the need for early interference. Perhaps the most practical issues have resulted from the pathological evidences which prove that the conditions, metritis, perimetritis, and salpingitis, are frequently correlated or consequent upon each other, and are associated and concurrent. The entire pathology of salpingitis has so advanced as to enable us to coordinate and differentiate the varieties of tubal inflammation, whether on the mu-

cous lining, as in endosalpingitis, in the mucous and muscular layers, as in parenchymatous salpingitis, or mainly in connective-tissue development, leading to the obliteration of the muscular tissue and vessels, as in chronic atrophic salpingitis.

The relation of hydro-salpinx to a salpingitis arrested in its serous stage, and the pathological differences between ordinary hemato-salpinx, and tubal apoplexy, and hemato-cystic hemorrhage, have come to be understood, while the causation of pyo-salpinx, and its secondary consequences in adhesions or rupture, have been demonstrated through pathological evidence. Tubercle of the Fallopian tube is known to be of more frequent occurrence than was suspected, and the interesting fact, emphasized by Alban Doran, has to be remembered—that tubercle of the adnexa in young persons and virgins is not so uncommon a cause of obstinate and prolonged uterine vaginal discharges. It is accompanied by local lesions, such as erosion of the uterus and enlarged and painful ovaries. Papilloma and primary carcinoma of the Fallopian tube may be said to be very rare conditions, and William Russell, of the Johns Hopkins Hospital, has published a case of infarcted hydatid, in which the pedicle of the cyst was rotated and the tube twisted, the result being an infarcted Fallopian tube associated with a serous cyst.⁸ It would be superfluous to refer here to the increase of our knowledge with regard to the whole subject of tubal pregnancy, for some of the most valuable of all the communications which have appeared on this subject, dealing with the etiology, pathology, and treatment of ectopic gestation have been contributed from time to time by Fellows of this Society, not the least important being that one recently read by our late President, Mr. Mayo Robson. Without entering into certain controversial points, we now know how difficult it is in some instances to pronounce between some cases of tubal apoplexy and intra-ligamentary hemorrhage, resulting in broad ligament, blood-sacs, and tubal distensions of blood, in short, between cases of hemato-cystic hemorrhage, and ectopic gestation in which no mole can be discovered. But I

must not delay over this interesting subject, and only remark in regard to it, that both the pathology and clinical history of ectopic gestation converge to this practical teaching that when we are convinced that a woman is suffering from a tubal or broad-ligament pregnancy, operation should be resorted to without delay. In regard to all this pathological and clinical advance, it is only common justice to mention in connection with it in this country the names of Lawson Tait, Alban Doran, Bland Sutton, and Cullingworth.

Nor, if time permitted, would it be difficult to show that in regard to the urinary organs, as well as the external organs of generation, important pathological advances have been made. Let me give a few examples of this in the case of the latter. Light has been thrown on the pathology of vaginismus and its causation, different tumors of the clitoris have been described, the various forms of pruritus have been pathologically differentiated. J. C. Webster, in this country, and Sanger, abroad, the former by his researches into the nervous nature of this disease, the latter by analyzing its endogenous and exogenous causes, and by his advocacy of operation in obstinate cases by removal of the labia and clitoris (a step which has been followed with success by many other distinguished surgeons), have done valuable service. The important affection—abscess in the urethro-vaginal septum—has been, both as regards its etiology and pathology, carefully described by Cullen. The relation between it and cystic, glandular, lacunar, and diverticular conditions, derived from either the remains of Gartner's ducts in the vaginal septum, abnormal states of Skene's tubules within the urethral orifice, arrested urethral concretions or traumatisms, occurring during delivery, have been demonstrated. The abscess-sac varies both as to the nature of its walls and the character of its contents.

Much as I may desire, I cannot delay to refer to many other interesting pathological advances that have been made in regard to the external organs of generation, but before summarizing a few of the more important of the recent operative improvements

in gynecology, I must just briefly draw your attention to the assistance we have received at the hands of the bacteriologists in tracing out the influence of germs in determining the character and progress of certain diseases. These influences have been clearly traced out in the case of puerperal septic processes which are initiated by pathogenic organisms, pyogenes, and saprophytes, these being associated with purulent discharges in which streptococcus and staphylococcus are discovered.⁹ The merismopedia gonorrhea, the gonococcus of the gonorrheal virus, is frequently found in the septic gonorrheal inflammations of the endometrium and adnexa, and the tubercle bacillus in tuberculous inflammations, both of the uterus and tubes. Laplace's experiments in Koch's laboratory have shown that in the normal endometrium of the uterus are numbers of micro-organisms, some of which have poisonous effects on guinea-pigs, and which are enormously increased in inflammatory states, while in chronic endometritis, infectious organisms are found, frequently gonorrheal, invading both the epithelium and fibrous tissue. The method of invasion in enormous quantities by micro-organisms of the endometrium and subjacent tissues, and their subsequent development in these, as well as the secondary production of irritants or ptomaines, consequent upon serous decomposition, and the resulting tissue-metamorphosis are now clearly comprehended. The rational treatment by curettage followed. Such curettage results in the formation of a new endometrium, free from pathogenic organisms, and normal in character, within a period of from eight to ten weeks. But it must here be remembered that Hartmann, Morax, and Schmidt,¹⁰ have shown that aseptic peritonitis may occur, and no micro-organisms be discovered in the sero-fibrinous exudation. This is also true of simple inflammatory conditions of the adnexa, though in by far the larger number of cases of pyosalpinx, streptococci, and gonococci are found, as well as the *Bacterium coli*, the staphylococcus, the bacillus of the tubercle, and the cladothrix of actinomycosis.

Not without interest, as bearing on the

subject of microbial infection, were the investigations of Stroganoff, Gow, and Willis, which tended to show that in the vaginal normal mucus are non-pathogenic microbes which are hostile to the pathogenic species, and that these latter in the natural and healthy state do not exist in the cervix uteri. Hence the cervical secretion containing the bacilli vaginae is distinctly protective. Lastly, it has been proved abundantly by pathological investigation at the hands of the ablest observers in different parts of the world that foremost among the different causes of death after operations on the pelvic organs, abdominal and vaginal, exceeding by far numerically all immediate or secondary consequences arising from operative shock, is septic infection originating in some part of the operated tract, and that this infection is due to septic organisms which have been either introduced through carelessness before, during, or after operation. Perhaps there is no more serious reflection for the operating gynecologist than that which this last fact enforces. The predisposing influences of an exhausted vitality and of shock in producing septic conditions it is well to remember. The question has not without reason been raised—is impending death more often the forerunner of septicemia, rather than septicemia the cause of death?

Having touched on the indebtedness of the gynecologist to the chemist and the anesthetist, the author remarked that the most brilliant manipulator must feel that he can never repay the anesthetist for his coolness and skill, qualities which, in many of the prolonged operations in abdominal surgery, are tested to the utmost. On the other hand, none have brought the antiseptic and aseptic methods to a greater degree of perfection than the gynecologists. Anesthesia enables us to perform; antiseptics and asepsis to reap the full reward of our labor. The dual gospel of antiseptics and asepsis, taught not in parables, but by demonstration, made straight the path for the gynecology of to-day.

Before, even in some imperfect way, endeavoring to group together a few of the most brilliant of the operative procedures

at present practiced, I wish to make one or two remarks on the part that has been played by conservative gynecologists in the evolution of the surgery of their art. Proud of achievements, fascinated by successes, emboldened by dexterity, encouraged by results, and flattered by congratulations, there is great danger of enthusiasm overstepping judgment, and impulse substituting reflection. As human nature furnishes to the ranks of our profession, as to every other calling, a certain proportion of those whom Ruskin calls "the fee-first men," another possible influence tending to turn the balance in favor of operation cannot be omitted. All honor to those, who, during the leaps and bounds with which the surgery of the pelvic organs of women has advanced, have acted as a modifying and restraining force on others whose ingenuity, dexterity, and enthusiasm may have prompted them to an excess of zeal. There has possibly been a natural, but none the less unworthy, tendency, to explain the skepticism and caution of some gynecologists as being due to a jealousy on their part, arising out of an inability to do that which bolder spirits ventured, and with success, to accomplish. This may have been so in some instances. Timidity and incompetence are often cloaked by an assumption of virtuous philanthropy. There is nothing easier than a simulation of indignation and the imputation of motives, when we wish to denounce another for that which we cannot do ourselves. While, however, that is so, I think that the most unbiased and impartial observers of the evolution of uterine surgery must admit the incalculable service which has been rendered to it by the vigorous criticisms—nay, even the hostile denunciations—of independent and honest opponents. I think that one of the results of such criticisms is to be seen in the various conservative steps which later years have developed, in the endeavor to isolate and preserve partially disordered organs and healthy parts, so as to secure to the woman, when possible, the permanent discharge of her generative functions. Such conservative surgery is best seen in salpingostomy, an operation we owe to Skutch,

of Jena; salpingorrhaphy, with which the names of Pozzi and Martin are associated; resection of the ovaries, which Polk, Martin, and Pozzi were among the earliest to advocate. In the operation of curettage, properly performed, we have one of the most conservative of all modern uterine operations, and in that of colpotomy, with ablation of the cervix, and resection of the exposed and cystic ovaries, as performed by A. Martin, we recall another procedure, anticipatory of more serious uterine disease, yet conservative of the adnexa.

In the treatment of pelvic suppuration, by drainage through the abdominal or vaginal wall and other conservative operative treatment; in the control of uterine hemorrhage from fibro-myomata; by ligature of the uterine arteries, as proposed by Robinson and Martin, of Chicago; in myomectomy, and in the various procedures which are included under the general head of electro-therapeutics, and in connection with which the names of Cutter, Tripier, Apostoli, and Keith are so familiar, we find proofs of the desire to afford relief and safety to the woman without resort to extreme and radical measures.

Without quoting the exact dicta of various eminent gynecologists, French, German, American, and British, I can safely assert here, that the consensus of opinion of all may thus be expressed:—That the adnexa should not be totally removed from any woman, single or married, within the generative epoch of her life, unless there be present in some portion of them disease of such a nature as to render it a source of danger to her life, or to make her miserable, and to be of so extensive or irremediable a nature that it is impossible to remove the disease without mutilating the woman.

So far as this Society is concerned, there has been no champion of the conservative surgery of the adnexa more persistent and consistent in the advocacy of the motto *festina lente* in the adnexa of surgery than Dr. Charles Routh.

What, then, are the most solid and permanent advances in the operative field of gynecology within the past few years? I will name only a few of the most prominent. And first, I would refer to that group of

operative procedures for raising and fixing the uterus in cases of backward displacement.

Here the principles of the various operation procedures of Alexander, Howard Kelly, Koeberlé, Leopold, and Czerney, Olshausen, Sanger, Mackenrodt, Martin, and others were comparatively summarized.

Reviewing these operations, the first remark which has to be made is, that a large number of cases of retroversion of the uterus, with or without flexion, may be cured, with patience, by manipulation, properly applied supports and attention to the postural cure. And I think in most cases such methods should be tried before resorting to any operation. But much must depend, not only upon the position in life of the patient, but upon other circumstances and surroundings of the case. The risks of operation are so slight, and the advantages of successful interference so great, that we are more and more coming to the abandonment of pessaries and the resort to operation. Of Alexander's operation, there is this to be said in its favor—there is the avoidance of the risk of miscarriage, and of interference with labor. In choosing between all others, I am inclined to select, of the abdominal methods, Howard Kelly's suspension and Martin's vagino-fixation.¹¹

We pass by, as there is not time to refer to them, the various ingenious operations for the cure of deficient or absent perineum, for cystocele and rectocele, ascribing, however, that meed of praise which is his due to Mr. Tait for his colo-perineo-plastic operation. The operations of Reamy, Doléris, and Martin are also largely practiced. With regard to the radical measure of extirpation of the uterus and colporrhaphy, for total prolapse, I will only say, that in my opinion colporrhaphy and abdominal fixation of the uterus should be first tried before resort is made to so radical a measure. The direct danger seems to me to be greater to the patient than the consequences of the conditions it is carried out to relieve. One of the first prohibitory axioms of surgery is violated.

Another great advance has been made in the treatment of pelvic suppurations by

operative interference. It is still a vexed question as to the best method of reaching and removing the diseased adnexa, whether by the abdominal or vaginal way, that is, by celio- or vagino-salpingo-oöphorectomy. Péan, Second, Doyen, and E. Landau are advocates for the operation through the vagina, and Polk, Delagenière, Schauta, Bardenhauer, Kelly, and Sanger practice the radical abdominal operation, the two latter combining it with supra-vaginal hysterectomy. Professor E. Landau performs an abdomino-vaginal complete radical operation. The important point to note here is, that all these surgeons whose accumulated experience lend to their opinions the greatest weight, are agreed upon the necessity for radical operative measures where we have formidable suppurative states of the adnexa. The extent and magnitude of the operations must always depend upon the features of the individual case, and the same remark applies to the method and technique of the operation, whether vaginal, abdominal, or combined.

We now turn to another branch of uterine surgery, namely that of uterine fibromata. The magnitude of the subject, both in regard to its gradual evolution, the development of the different methods of performing hysterectomy and pan-hysterectomy, and the clinical correlations which must influence an operator in selecting this or that method, would almost incline one to pass it over in silence in such an address as this. Last year in the *Journal of the Society*, Dr. Charles Noble, of Johns Hopkins Hospital, contributed a most complete survey of the progressive development of hysterectomy in all its methods. Still, we have distinguished advocates of extra-peritoneal celio-hysterectomy after Hegar's method, with different modes of treatment of the pedicle, and equally distinguished surgeons pursuing the intraperitoneal celio-hysterectomy of Schroeder, with different ways of treating the pedicle and the uterine cavity, if opened. Then we have the celio-vaginal pan-hysterectomy of Bardenhauer and Martin, Doyen's celio-vaginal salpingo-oöphoro-hysterectomy (the former rely upon ligature, and the latter, up to

a recent period, employed the clamp for the arrest of hemorrhage), Jessett's pan-hysterectomy, which is also a celio-vaginal ligature operation, performed by the aid of his bivalve obturator. Then there are the methods of Zweifel and Baer, which are both intraperitoneal methods, and the mixed method of Wolfier-Hacker and Sanger, in which the pedicle, covered with the peritoneum, is attached to the abdominal wall, and the latter closed, with or without drainage. There is also the celio-vaginal operation of Le Bec, described at the British Medical meeting of 1896, which he advocates for those difficult cases of fibroma complicating cancer. For special cases there are the operations of myomectomy, morcellement, and detortication, the last being specially applicable to tumors of the broad ligaments. The operation of salpingo-oöphorectomy stands by itself as an alternative step in the treatment of fibromyomata of a certain size and character.

The last great advance in hysterectomy has been certainly made by Doyen in his celio-vaginal pan-hysterectomy, in which no hemostatic forceps or clamps are employed, the uterus being delivered without any hemostasis by clamp, the thumb and fingers of the assistant and surgeon being used to control the vascular connections, and the various vessels being finally secured with ligatures. A description of the entire technique of this brilliant operative procedure will be found in Doyen's "*Technique Chirurgicale*," recently published.

The following are, I think, the more settled points with regard to the surgery of myo-fibromata. The use of the *serre-neud* and clamp is becoming a thing of the past. Each variety of tumor may present in its individual features a special method of operation, adapted to its peculiar and inherent difficulties in removal. No hard and fast line can be drawn, nor, in reality, can any rule sufficiently broad be fixed for the removal of fibromata of the uterus and adnexa. The condition of the patient, the experience and relative dexterity of the operator, the size, position, and complication of the growth are so many determining forces acting on the mind

of the surgeon, free from the influence of fads and bias, which will determine him to adopt the line of procedure most calculated to save the life of his patient. In the cases suitable for it, I cannot conceive a more perfect operation than a well-executed intraperitoneal hysterectomy. In leaving this subject of myomata, it would be an injustice in any address to omit mentioning the splendid manipulative work which has been done in this field in this country by Keith, Lawson, Tait, Bantock, Taylor, of Birmingham, the late Greig Smith, and others.

Turning, now, for one moment, to the surgery of cancer of the uterus, let me summarize in a few sentences the conclusions which, it appears to me, have been arrived at by the majority of modern gynecologists. Cancer once determined in any part of the uterus, when operation is feasible, is best treated by hysterectomy. The vaginal method offers for the great majority of cases the safest and best method of removal. The celio-vaginal method may have to be adopted in certain cases complicated by fibroma, from the large size of the latter. The operator has his choice of methods, the clamp procedures of Péan, Doyen, and Landau, or the ligature as practiced by such men as Martin and Olshausen, most of our English surgeons, and the majority of the American school. In Ireland both the clamp and the ligature are used. Much has been said of hysterectomy or pan-hysterectomy. Surely the choice will depend upon the extent and spread of the disease. Nothing I have said here is to be taken as depreciating the many other valuable modes of treatment for cancer or sarcoma where operation is not feasible.

The surgery of ectopic gestation may almost be condensed into a sentence:—operation is the treatment once it is determined that tubal or broad-ligament pregnancy is present. This, I believe, to be alike the safest action for the surgeon to follow, as it is, on every ground, the practice most likely to save the life of the woman.

Appertaining as much to general surgery as to gynecology are all the modern advances in the treatment of renal diseases,

but it would be an incomplete sketch of this subject if no reference were made to the ingenious methods of Howard Kelly of catheterization and exploration of the ureters, and the surgical procedures for the treatment of hydro-ureter and pyo-ureter, stricture, impacted calculus and fistula, together with his most ingenious operations of ureterotomy and uretero-ureterostomy.

I have thus endeavored, though most imperfectly, to dot out over the gynecological map, the main outposts, as well as the settled positions occupied by the surgeons of to-day. Could we but take up a corresponding map of ten years since, how great would be the difference, how many blanks, now well covered by the reports of successful investigations and solid progress! Were we to go still further back and examine that same area of the year 1878 we should find no well-defined landmarks, no very solid acquisitions in the regions of abdominal and pelvic surgery, with the exception of ovariectomy. Since then the delineations of the frontier have been drawn (not but that occasionally gynecologists make raids into the hinterland), and we stand to-day in an unassailable position, holding, yet still cultivating and developing, one of the most important departments of the surgical art.

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Ichthyol in Neuralgias

The following formulas are recommended by Erlenmeyer (*Bull. gén. de Thérap.*, LXVI, p. 464):

1. Ichthyol..... 20 gme. = 5 dr.
Absolute Alcohol... 80 gme. = 20 dr.
Ether..... 80 gme. = 20 dr.
2. Ichthyol..... 15 gme. = 3.7 dr.
Chloroform..... 80 gme. = 20 dr.
Spirit Camphor..... 80 gme. = 20 dr.

To be rubbed in two or three times a day.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Lupus Vulgaris Treated by Concentrated Chemical Rays

It is now well established that light exercises a powerful antiseptic influence. Thus the application of light as a curative measure for certain superficial bacterial affections would seem good theory. That it is so, and good practice also, is demonstrated in *La Sem. méd.*, Vol. XVII, p. 467, by Dr. N. R. Finsen, who gives a complete account of his researches. The electric light is used, as the sunlight is not always to hand, and by means of appropriate lenses this is focused and made to pass through distilled water, and also through a solution of ammoniated sulphate of copper.

Portions of the diseased skin are exposed for varying lengths of time. The action of these chemical rays is to produce at first a marked erythema, this is later followed by vesication and consecutive desquamation. After an affected area has had sufficient exposure the edges become flattened, the redness disappears and the ulcerations commence to cicatrize.

J.

Facial Manifestations of Diseases

J. D. Morgan (*Virg. Med. Semi-Monthly*, Dec. 24, 1897, p. 547) calls attention to the fact that many diseases are attended with a characteristic aspect of countenance, often recognized by the experienced, so far, at least, as to suggest the disease to his mind. The pallid face and lips, the anxious look, the restless eye, tell, even before the finger is put upon the pulse, of the loss of blood. The pinched nose, the sunken eyes, ashy-colored countenance, with perhaps beads of sweat upon it, speak of suffering or pronounced sepsis. The pale face of chlorosis, the puffy, waxy countenance of Bright's disease; the bloated, heavy look of myxedema are not less characteristic than the bronzed hue of Addison's disease, the prominence of the eyeballs of Graves' disease, or the yellow tint of jaundice. In vaso-pharyngeal adenoids there are a seeming prominence and puffiness of the cheeks and nasal bones, which cause the eyes to look heavy and sunken. The author states that Dr. Guiteras judges from his first look at the face of a suspect of yellow fever, whether he has to deal with a genuine case. Paleness may signify anemia, syncope, leucocythemia, dropsy, nausea, etc. The size of the face is often very

considerably altered in disease. As a result of gout, we have the ruddy appearance of blooming health, which when associated with high tension in the arteries, is highly suggestive of chronic nephritis. Inspection is even more important in the case of children. Pain in the head is indicated by contraction of the brows; in the chest, by sharpness of the nostrils; in the belly, by a drawing of the upper lip. In abdominal colic screaming is intermittent.

L.

Blood-coagulation

Petrone (*Morgagni*, Nos. 5 and 6, 1897), as the result of experiments, has been enabled to demonstrate:

1. The corpuscles of Bizzozero are a constant element of the blood, and change only under abnormal conditions.

Worn-out red corpuscles and their remains do not become corpuscles of Bizzozero. It is also demonstrated that corpuscles of Bizzozero are not globulin from the wasted red corpuscles.

2. The function of the blood-plaques is not coagulant, as was formerly believed, but anti-coagulant, and there is no relation between the coagulability of blood and the destruction of the plaques. Coagulation, being a pathological phenomenon, cannot be produced by a normal element, as corpuscles of Bizzozero.

3. The fibrino-ferment is not supplied by the white corpuscles, which are not, properly speaking, a morphological element of the blood, and, as proved by experiments, the coagulability does not increase in proportion to the increase in white corpuscles. After three or four days of pyrogallol poisoning, white corpuscles are greatly increased, and coagulability decreased. Moreover, experiments have demonstrated that the fibrino-ferment is in the red corpuscles, which contain fibrinogen also, and both are liberated when the corpuscles are destroyed. Probably the fibrino-ferment of the red corpuscles is a nucleo-albumen.

4. The fibrinogen is especially found in the plasma sanguinis. The fact that fibrin does not appear when the red corpuscles are unaltered, is not an argument that they only contain fibrinogen, but that there is not a production of fibrino-ferment.

5. The presence of calcium salts without fibrino-ferment does not aid the coagulation. All the anti-coagulants which precipitate the calcium salts destroy primarily the blood-plaques of Bizzozero. Calcium chloride, when added to blood previously treated with anti-coagulants, produces strangulation. Sodium fluoride, ammonium oxalate, and sodium chloride act alike when injected endovenously during life.

All of them decrease the coagulability at first, then increase it.

6. True coagulation, in other words, a true thrombus, takes place only when fibrinogen is precipitated and solidified. All other apparent obstructions of vessels are not true thrombi, but are simply coagulations of regressive products.

The author concludes as follows:

1. Blood coagulates strongly and rapidly when hemoglobin is liberated.

2. When intravenous injections of indifferent substances are made (as distilled water), blood-corpuscles of Bizzozero are not altered, but become more resistant, and often more numerous.

3. The white corpuscles may be greatly increased and coagulability decreased.

4. The mechanical influence of dead corpuscles, as a center of precipitation of fibrinogen, is not always essential.

5. Blood coagulates little or not at all, when there are little hemoglobin and many plaques. Coagulation of the blood is due to the action of hemoglobin and fibrinogen, and in the plaques of Bizzozero is contained the principle inhibitor of coagulation. W.

Green Diarrhea of Children

The results of the investigations of Durante (*La Settimana med.*, 1896) would seem to show that the *Bacillus viridis* associated with the *Bacillus coli communis* produced fatal effects in the animals experimented upon much more rapidly than pure cultures of the *viridis*.

This augmentation of toxic effects is not explained on the grounds of a doubling of the toxicity, but rather to some influence that the non-toxic *coli* has upon the intestinal tract which favors the growth of *viridis* or augments the amount of its toxic products.

Delirium in Pneumonia

Dr. C. Potain's clinic at the Charité Hospital, Paris, on a man of 40, suffering from pneumonia, is given in *La Sem. méd.* (No. 40, pp. 471-2, 1897). In two days it produced delirium and then stupor, and the clinical study is valuable in showing the cause of this manifestation.

The patient was a plumber. At 18 years, had acute articular rheumatism without cardiac complication. He was of intemperate habits, drank bad wine and was ill-tempered when in his cups.

Two days before entering the hospital he had one chill and a pain in the side. His breathing became labored and he came to the hospital at night with temperature of 39° C. (102.2° F.) which fell to 38.3° (100.9°) in

the morning. Pulse moderate at ninety-six beats. Characteristic viscid sputum. Physical signs of pneumonia present under left axilla. No serious functional disturbances, area of lung involved being only about a quarter of the left lung. Delirium and marked restlessness set in next day. He wanted to leave the ward and refused to stay in bed; though fever diminished, restlessness grew worse, until suddenly he was prostrated and motionless, with eyes fixed and expressionless. He let his limbs lie motionless, but kept his jaw clinched and refused food.

Chornel found meningitis in 8 per cent. of his cases of pneumonia. The exudation in these contains staphylococci, streptococci, and pneumococci. Usually the period of excitement in these cases is followed by somnolence and coma, with signs of pressure, such as inequality of pupils, strabismus, nystagmus, etc., and occasionally facial paralysis, trismus, and convulsions. In apoplectic form sudden hemiparesis or hemiplegia follows loss of consciousness in meningitis of pneumonia. Such cases are usually fatal or end in incomplete recovery.

The delirium does not always indicate meningitis, but may come from simple hyperthermia.

Alcoholism determines in pneumonia either moderate active delirium proportionate to the fever, or brutal and boisterous delirium tremens of professional type.

Apart from alcoholics, delirium in pneumonia is commonest in the aged, in form of typhoid pneumonia, producing interstitial nephritis, uremia, and coma.

In cachectic subjects pneumonia may develop delirium.

Certain ones are idiosyncratic, their delirium being like dementia, or accompanied with hallucinations, in both typhoid and pneumonia patients. The delirium itself, though it continues a long time, is not dangerous, except in its persistence after recovery from the pneumonia.

This case had no signs of meningitis, notwithstanding his high initial excitement; his trismus was voluntary; there were no signs of compression of the cranial nerves. His symptoms were not due to inanition, for he was a good eater; nor to delirium tremens, for there was no professional delirium. It was not a febrile delirium. It was narrowed down to delirium of insanity, which agreed with his behavior under alcohol.

The diagnosis is important because of the vast difference in treatment of hyperpyretic, adynamic, and alcohol varieties of delirium. In hyperpyretic cases cold applications would be required; in alcoholic cases, alcohol could not be altogether suppressed, but would need to be given guardedly; in ady-

namic cases, general tonics, and excitoreflex agents; in uremic cases, the kidneys need attention; in insane delirium, however, hydropathy carefully applied and antispasmodic remedies are indicated. H.

Etiology and Diagnosis of the Affections of the Facial Cavities, except the Maxillary Sinuses

In a paper read before the Surgical Section at the International Congress in Moscow, M. Hajek (*Rev. de Anat., Pat. y Clin.*, Dec. 1, 1897) says that influenza, scarlatina, variola, pneumonia, typhoid fever, etc. are at times accompanied by inflammatory affections of the facial cavities, but the mechanism of their action and the rôle played by the micro-organisms found in the secretions are as yet unknown. Hajek believes, however, that empyema is due to an inflammation originating in the nasal mucosa.

What part polypi have in producing empyema of the cavities of the face is as yet unsettled. As to the relation between it and ozena, the majority of rhinologists admit to-day that the two diseases frequently coexist.

The diagnosis of encysted empyema of the ethmoidal cells alone is impossible when there is no concomitant dilatation.

In cases of pure empyema, a question of knowing if the secretions come from the anterior or posterior ethmoidal cells can be resolved by noting the position of the orifice through which the secretions escape. In encysted empyemas this differential diagnosis is impossible.

The diagnosis of empyemas of the sphenoidal sinus is easy when the orifice of the cavity is accessible to the eye or to a probe (which is rare). If the middle turbinate lies against the septum it is impossible to make a diagnosis without previously resecting the major portion of it.

Treatment of Sycosis Coccogenes and Parasitaria with Ichthyol by Cataphoresis

The treatment of sycosis with ichthyol has been carried out for a period of three years by Dr. Ehrmann, of Vienna (*Wien. med. Blätter*, 1897, No. 1), who employed cataphoresis as a means of introducing the remedy more thoroughly into the infected tissues. The apparatus employed was a glass globe provided with a rubber ring at the periphery to insure close contact, and having at the bottom an amalgamated zinc plate, the balance of the space being filled with cotton impregnated with the solution used, the whole serving as the cathode, and being applied to the part to

be treated. The anode was applied to the arm, and consisted simply of a moist electrode. As a rule, the solutions were applied as the anode, but in the case of ichthyol, of which 10-per-cent. solutions were used, better results were obtained by using it as the cathode. By this means, twelve cases of sycosis parasitaria and thirty-seven of sycosis coccogenes were treated. Nine days were required on an average for a cure in the former cases, daily sittings being had, and in the latter case the period required for a cure ranged between three and fifteen months. The average time required in these severe cases was about seven weeks, the treatment in many being daily, and in a number only three times a week. A current of 15 milliampères was employed, which was slowly regulated by means of a rheostat. Each affected portion was thus treated for ten minutes at a time. The excellent results obtained, therefore, warrant the writer's belief that cataphoresis is an effective form of treatment in a variety of affections that have heretofore been with difficulty treated.

Glandular Swellings in Rickets

Froehlich, in *Jahr. f. Kinderheilk.*, contributes a study of this subject, reproduced by S. Fradis in *Jour. de Clin. et de Thérap. inf.* (No. 50, 1897, p. 991).

Certain authors (Henoch, Comby, Baginsky, etc.) consider the glandular swellings observed in rickets as part of the clinical picture, others think they have no intimate connection with the principal disease, but are due to some other concomitant disease. They first base their opinion of the frequency with which the adenoid swellings are found in cases of rickets, and the opinion is favored theoretically by the hypothesis of the infectious origin of this disease. Clinically it must be demonstrated whether:

1. Many cases of rickets exist without glandular swellings; and whether

2. In cases of their coincidence we do not find some other morbid process which would suffice by itself to explain the hypertrophy of the gland.

At the Infants' clinic, in Breslau, the author examined eighty-five children on this point. He found absence of all hypertrophy in thirty-two cases, in each case the child had had no other grave disease. In all the other cases in which rickets was accompanied by glandular swellings, concomitant disease was always observed—tuberculosis, dermatosis, gastro-intestinal troubles, to which the gland-hypertrophies might have been due, the more probably as these affections are usually accompanied by glandular swellings when there was no rickets.

This is well-known concerning tuberculosis and the dermatoses (furuncles, old eczema, scrofula, prurigo). Cases of gastro-intestinal troubles are principally cases of rickets. But rickets at the outset is hard to recognize. Yet, the author gathered fifteen cases of gastro-enteritis without a sign of rickets, but with marked adenopathy. No one could be positive, however, that they might not become rickety, being then so young. The author regards them as adenopathies without rickets, which view is supported by the microscopic findings in the glands, which show gastro-enteric infection of non-tuberculous character. Comby and Marfau hold to the gastro-intestinal origin of rickets, which does not decide that adenopathies are due to rickets, but merely that one and the same disease of general infectious character following gastro-enteritis has caused rickets and glandular swelling.

Besides, Stark, in a recent work, considers megalosplenism (less frequent than rickets) as due not to rickets, but to the gastro-intestinal troubles of the rickety.

Since glandular swelling belongs to cutaneous or gastro-intestinal diseases, the need of observing closely the functions of skin and bowels of rickety children is apparent. H.

Differential Diagnosis of the Grippe

According to Dr. Coronado, *Revista de Med. y Cir. de la Habana* (Dec. 25, 1897), a genuine case of la grippe must present the following test in the first twenty-four or forty-eight hours:

Obtain a drop of blood from the finger and put it in a test-tube, closed by a cotton plug. At the end of twenty-four hours the blood is found to be converted into a culture of influenza bacilli extremely motile and easily visible under the microscope. S.

Neuritis and Atrophy Following Acute Arsenical Poisoning

At the December meeting of the Practitioners' Society (*Med. Rec.*, Vol. 53, p. 99) Dr. W. G. Thompson presented a man 38 years old, who ten months previously attempted to commit suicide by swallowing a large dose of arsenic. The poison produced a severe gastro-enteritis, and six weeks later symptoms referable to the nervous system began to make their appearance. These were, at first, numbness and pain in both feet, followed by a gradual loss of power, until the patient could not stand. Later, the hands and arms became affected in a similar manner. There is, at present, still a good deal of cutaneous anesthesia, and the atrophy of the muscles, especially of the interossei, is considerable.

The patient has difficulty in picking up objects, and his gait is shuffling. The reaction of degeneration is obtainable in most of the muscles. The man is treated by tonics and electricity, and is improving. At the same meeting Dr. A. N. Smith and Dr. Peabody reported similar cases from their practice.

R.

A Fatal Case of Febrile Rheumatism of Microbic Origin

Drs. Triboulet and M. Coyon (*Indépendance médicale*, Nov., 24, 1897) observed a fatal case of febrile rheumatism complicated with endocarditis, pericarditis, and chorea in a young child. At the autopsy cultures were obtained from the blood, a segment of the mitral valve, and one of the spinal cord, which proved to contain a special microbe, mixed with sparse chains of streptococci. The cultures were obtained in a pure state after a single transplantation and presented the following characteristics:

They caused fermentation and coagulation of milk, separating it into a serous lower layer and a frothy upper layer, which was covered by large firm bubbles. A butyrocacous, but not fetid, odor escaped from the culture. Under the microscope it appeared as a large bacillus with rounded extremities. It stained with the ordinary aniline dyes, and was not decolorized by Gram's method. Two or three cubic centimeters of the culture injected into the soft structures of the thigh proved fatal to a guinea-pig within twenty-four to thirty hours, and pure cultures could be reobtained from the sero-sanguinolent collection formed in the fold of the groin of the pig. The authors believe that all these manifestations corresponding with the observations made by Thierloix with the blood of rheumatic patients, and assign the origin of the case in question to this microbe. They, furthermore, attempt to consider the chorea which was present during the child's life to be due to infection of the nervous system by the same organism. S.

Inhalation of Vapor of Mercury through Inunction

A. Neisser ("Die Einreibungskur," *Volkmann's klinische Vorträge*, No. 199, Dec., 1897) considers that the results obtained in the treatment of syphilis by the inunction of blue ointment are referable not to the comparatively small amount of the agent which actually makes its way through the skin, but to the inhalation of the vapor of mercury which the warmth of the patient's body is constantly causing to be given off. He recommends that the patients spend as

much of their time as possible in a single, well-warmed room, taking as little outdoor exercise as is compatible with health, in order that they may be constantly surrounded by an atmosphere charged with the volatilized metal. His routine is to apply 4 gme. (1 dr.) of a 33 1-3- or 50-per-cent. ointment either at bedtime or on rising (no friction is necessary), increasing the amount by 1 gme. (15 grn.) every tenth day, and continuing the treatment for forty-two days. If the mouth is properly cared for by the plentiful use of astringent and antiseptic lotions, the author thinks that stomatitis and salivation should never be produced, although a mild degree of either does not, in most cases, require suspension of the treatment for any great length of time.

J.

Swelling of the Parotid Gland in Uremia

Dr. Richardiere (*Deut. med. Zeit.*, XVIII, No. 93) says the development of uremic parotitis can be explained in one of two ways: it may be due either to the increased secretion of the gland, or to a chemical change in the secretion. An increase of the secretion from the parotid and ptyalism have been noticed in many cases of uremia; as to the chemical changes, though we are not yet fully familiar with them, we must assume that they are of great significance. The saliva of uremic patients seems to play an important eliminative rôle, uric acid being almost constantly found therein. In the author's case there was an increase in the secretion, and he ascribes the inflammatory process to a chemical change in the saliva.

R.

Lymphatism and its Treatment

Dr. Gallois states (*The Med. Week.*, V, p. 597) that, according to actually prevailing views, lymphatism may be defined as predisposition to scrofula. Scrofulous individuals of old would now be described as suffering from adenoid lesions, which appear to be the anatomical condition of scrofula, just as nephritis is of uremia or cardiac lesions of astylosia.

Lymphatism, properly so called, which is a lower degree of scrofula, is characterized by an almost typical symptom, viz., pallor, that is to say, anemia. It may be looked upon as the state of an adenoid patient, whose cervical glands have not as yet become infected. Besides adenoid lymphatism, there is also pseudo-lymphatism, just as there is pseudo-chlorosis. Such is, for instance, dyspeptic lymphatism.

Our conception of scrofula and lymphatism should, therefore, be as follows: Children with cervical adenitis, characteristic of

scrofula, are almost invariably of an adenoid disposition; the grave general condition, the diathesis, is secondary to the local lesion; the nasopharyngeal lesions, more particularly the adenoid vegetations, represent an anatomical condition which opens wide the gate for infection.

Before deciding on any treatment, it should be ascertained beyond question that one has to do with a case of adenoid lymphatism, not of pseudo-lymphatism.

The nasopharyngeal affection may be treated by medical or surgical measures. In the former case, a teaspoonful of the following solution is administered after each meal:

Iodine	1 gme. 15 grn.)
Potassium Iodide.....	2 gme. (30 grn.)
Water.....	200 gme. (7 fl. oz.)

In the second case, the adenoid vegetations are extirpated.

The lymphatic state, which comprises three elements, anemia, dyspepsia, septicemia, is treated in the following manner:

For the anemia, recourse is had to the administration of iron iodide; for the dyspepsia and anorexia, bitters are prescribed, especially quinine or gentian. At each meal, for instance, a teaspoonful (in the case of a child between five and ten years of age) may be given of the following mixture:

Syrup Cinchona, or Gentian	200 gme (5 fl. oz)
Tincture Iodide.....	2 gme. (30 min)
Potassium Iodide.....	2 gme. (30 grn.)

Lastly, the septicemic or latent toxic-infective state is treated by Fowler's solution, iodoform pills, and cod-liver oil.

It is self-evident that these various methods should be associated with life in the open air and at the sea, gymnastics, hydrotherapy, etc.

To prevent lymphatism from passing into scrofula, it is necessary to attend to prophylaxis against infection. Asepsis of the nasal cavities should therefore be assured by the use of the following ointment:

Vaseline.....	30 gme. (1 oz.)
Boric Acid.....	6 gme. (90 grn.)
Aristol.....	0.5 gme. (8 grn.)
Menthol.....	0.1 gme. (1 ½ grn.)

The boric spray, antiseptic gargles and Weber's douche under low pressure may also be employed. Since infective symptoms usually make their appearance in patients with adenoid tendencies in the course of an intercurrent contagious disease, children's parties, balls, etc., should be abstained from. Lastly, steps must be taken to prevent the propagation of an infection of the nasopharynx to the face, eyes, etc. The path to the lips and nares should be

protected by a rather thick layer of borated ointment. The conjunctiva should be washed either with borated water or with a 1:10,000 solution of mercury cyanide.

Generally speaking, the most scrupulous cleanliness is recommended. Daily baths should be taken, with light douching after each bath. F.

A Case of Pulmonary Hysteria

Leoni (*Morgagni*, June, 1897) studied a case of pulmonary hysteria in a student of 19 years of age.

He found dulness in the region of the right pulmonary apex, sub-crepitant and mucous râles, absence of cavitory phenomena, temperature between 37.2° and 37.5° C., cough and sweating, pain in right side of thorax during respiration, insomnia, hemoptysis occasionally, and prostration. After three months of treatment, by suggestion, electricity, life in the country, and few medicines, none of the former phenomena was persistent.

He concludes that: -

1. The patient was a neuropathic and had a neuropathic family history.
2. An unknown cause developed the latent hysteria.
3. The pulmonary phenomena were of hysterical origin, as they changed in intensity and place, and disappeared by suggestion and electricity.
4. The fever was of nervous origin, without affecting much the general condition of the body. W.

An Experience of Ninety-six Cases of Diphtheria in Private Practice

Walter Charles Aylward (*Brit. Med. Jour.*, No. 1933, p. 141) records his experience with ninety-six cases of diphtheria, of which seventy-two were treated by the serum method and twenty-four by non-serum methods.

In nearly 97 per cent. of the cases the false membrane was observed, at some time or another, on one or both tonsils, and these were the parts almost invariably first attacked. In 51 per cent. of the cases it did not spread beyond them. The submaxillary glands were enlarged in 72 per cent. of the cases. Albuminuria was observed in 18.7 per cent. of sixteen serum cases examined. This is contrary to the idea that serum-injection causes or increases albuminuria. Paralysis followed in 8.3 per cent. of twenty-four non-serum cases and in 18 per cent. of seventy-two serum cases.

The author adopted the following precautions before injecting: The injecting needle was boiled and the syringe filled with phenol (1 in 20) before use. If dried serum

was used, the dissolving water was boiled at the same time. The patient's shin was prepared by rubbing with phenol (1 in 40), and, immediately after, applying a very small amount of pure phenol to the spot selected for injection. This, in addition to its antiseptic had also a slightly anesthetic effect.

The author found that the effect of the serum upon the false membrane seems to depend mainly upon the length of time that membrane has been formed. If recent it seems to be disintegrated and almost dissolved away. In only 3 per cent. of the seventy-two serum cases was any spread observed after the lapse of twelve hours from the time of injection. In these, only a very small initial dose, 200 Behring units, had been given. The usual dose was 1000 Behring units. The mortality in twenty-four non-serum cases was equal to 12.5 per cent., and in seventy-two serum cases was equal to 4.16 per cent.

The author is convinced that the serum is the treatment par excellence for diphtheria.

Secondary Degenerations Due to Focal Hemorrhages

In the *Riv. di Pat. nerv. e ment.*, Vol. II, No. 1, Drs. Dotto and Pusateri have studied the alterations in the nerve-cells following intercerebral hemorrhage which is focal in character, they have also taken up the study of the relation of the fiber connections of the cortex of the Island of Reil and the internal capsule. The conclusions that they have come to are substantially as follows:

1. After intercerebral hemorrhage a secondary atrophic process takes place in the cortex of the same side.
2. This atrophic process is not uniform, and different nerve-elements are involved to varying extents.
3. The cortex of the Island of Reil sends fibers through the internal capsule. J.

A Method of Staining the Nucleus of Red Blood-corpuscles

Prof. Petrone (*Gazz. degli Ospedali*, 1897) gives a new method of staining the nucleus of the red blood-corpuscles. He uses formic acid 1 to 600, to 30 c.c. (7½ fl. dr.) of which he adds a few drops of the standard hydro-alcoholic aniline-solution. All the colored formic solution remains clear, the nucleus of red corpuscles stains in a minute, and likewise the hemoglobin. Treating the preparation for half a minute with an aqueous solution of some acid aniline color, the hemoglobin is decolorized first and stained afterward. The best results are obtained in using the formic nigrosine first, and the eosine after, or with the Biondi-

Heidenheim formic mixture, with which a splendid double coloration is obtained in a minute, the nucleus staining green, and the hemoglobin orange, sometimes red (on account of the modification produced by the formic acid on the orange). Besides the structure of the elements is shown better. The nucleus has been seen sometimes divided, like the nuclei in karyokinesis, especially in cases of pregnancy, puerperal stage, oligohemia, etc. Not only do the red corpuscles stain, but so also do sections of tissues previously hardened in alcohol or Muller's fluid. After half a minute of infusion into a hydroalcoholic solution of hydrochloric acid (1 to 100) the nuclei are shown very well stained in rose, while the rest remains decolorized.

This is the process of preparation of the formic carmine:

Carmine, 1 gme. (15 grn.); ammonia, 8 gme. (2 dr.); distilled water, 100 gme. (25 dr.). Dissolve well and leave in the open air for an hour. Then add, once in a while, 12 drops of formic acid, and distilled water 100 gme. (25 dr.). After twenty-four hours the solution is muddy and must be filtered.

That the compound is a formic carmine, is shown by the fact that the bottle containing the prepared fluid is filled with red vapors, which stain the walls of the bottle too, above the free surface, which phenomenon is never observed in any other solution of carmine.

It is necessary to avoid washing the preparations with water, as they are rapidly decolorized, if the water is used before the hydroalcoholic solution of hydrochloric acid. If the water is used afterward, it removes the surplus of coloration only. W.

Autopsy of a Case of Acute Graves' Disease

After giving the clinical history of the case, which was typical, Dr. Foxwell (*Brain*, Part LXXIX) details the interesting conditions found post-mortem.

The patient died two months after the appearance of the enlarged thyroid.

The body was very emaciated with much wasting of the subcutaneous fat. Unfortunately there is no record of the conditions of the thyroid gland. The thymus extended from the lower border of the thyroid isthmus to the second intercostal space, overlapping the upper part of the pericardium; it was one and a half inches wide, but so thin that it did not weigh half an ounce.

The ganglia of the cervical sympathetic were rather small and wasted throughout, but not harder than normal. The other organs, except the lungs, where there was a slight area of emphysema at the front bor-

der of the right lung and some consolidation at the apex, were normal. The brain was slightly more adherent to the skull-cap than normal; its surface-veins were full, both in front and behind; the arteries at the base were also full.

Briefly the pathological conditions found upon detailed examination were:

1. Chronic inflammation—sclerosis of the pia covering part of the vermiform process and of that covering the floor of the fourth ventricle, and also of the middle commissure of the third ventricle.

2. Acute softening of the surface of both thalami.

3. Excessive vascularity of the surface of the brain, of the internal capsule, of the cerebellum, and of the medulla—in the medulla, at any rate, leading to occasional hemorrhages.

4. Sclerotic changes involving portions of the tegmen, the pyramids, the gracilis and their nuclei; and the nuclei of the tenth nerves.

It is difficult to connect definitely any of this morbid anatomy with the clinical picture of acute Graves' disease, yet the changes are organic and decided. U.

Dilatation of the Stomach in Nurslings

M. Comby, *Jour. de Clin. et de Thérap. inf.* (No. XXVI, p. 506, 1897), measured the stomachs of eighty nurslings at the Hôpital Enfants Malades. Of twenty-six of them, from 1 day to 3 months old, but six had a small stomach (45 to 80 c.c.), the others had stomachs dilated to 200 to 310 c.c. Of nineteen, from 3 to 6 months old, four had a small stomach, fifteen a dilated stomach. Of twenty-eight, from 6 to 12 months old, six had small stomach, twenty-two dilated. Of seven others older all had dilated stomachs. Of these eighty children whose stomachs were examined by autopsy, 80 per cent. had dilated stomachs. Why this mortality with dilatation of the stomach in hospital nurslings? In addition to being badly cared for, or even abandoned, by their parents before being brought to the hospitals, they are invariably fed on poor cheap milk, perhaps watered with impure water, so that the butter in it is reduced (according to Budin) to fifteen to thirteen parts per 1000. Besides, they are often prematurely fed with soups, porridge, etc. Those that do not overeat to obtain satisfaction for hunger, die of slow starvation. The others have large stomachs by virtue of slow dilatation from excess of food taken in and fermentation of it there. The author finds extension of the stomach upward beneath the diaphragm and downward below the umbilicus. These children often vomit the stomach-contents,

mucus, clots of milk, bile, and coffee-grounds. Lead-paper will give reaction of sulphuretted hydrogen. The milk will be found undigested in the stomach as long as five or six hours after being taken, where it ferments and produces auto-intoxication, ready cause of diarrhea, vomiting, athrepsia, convulsions, etc. If these children recover their stomachs are left maimed to cause subsequent dyspepsias in adult life.

The author draws attention to these conditions for the purpose of pointing out a valuable method of dealing with them, viz., the method of lavage. He claims the process to be rational, removing products of decomposition, harmless, and more easy the younger the child. The tube used is of size Nos. 20 to 24, according to age, and is passed along the esophagus to the extent of 20 to 25 cm. One and a half to two ounces of boiled water, or vichy, at moderate temperature, is poured through the funnel and siphoned off, the process being repeated as long as debris is found. No bad results have ever followed this process in the author's experience.

H.

Hemianopia, with Especial Reference to Its Transient Varieties

After discussing at length the subject of the various (12) forms of hemianopia, Dr. Wilfred Harris, in *Brain* (Part LXXIX), reaches the following conclusions:

1. Hemianopia rarely binasal, more commonly lateral and left-sided, with accompanying constriction of the remaining half-fields, may occur as a temporary phenomenon in hysteria.

2. Hemianopia due to a vascular lesion of the cuneus, of sudden onset, may commence with marked loss of sight, sometimes amounting to complete amaurosis, and due probably to inhibition of the remaining half-vision center.

3. The cortical half-vision centers are not sub-divided into centers for light, form, and color respectively, and hemiachromatopsia may be due to a lesion anywhere in the visual path between the chiasma and the cortex.

4. Quadrantic hemianopia, though strongly suggestive of a cortical lesion, may sometimes be due to a lesion of the internal capsule.

5. The macular region of the retina is invariably supplied with the nerve-fibers on the same plan as the rest of the retina, i. e., each side of it from the corresponding side of the brain. In all cases of absolute transient hemianopia the dividing line between the seeing and the blind halves invariably passes through the fixation-point.

6. The cortical center for the macular

region in each cuneus is less liable to complete destruction, and recovers earlier than the rest of the half-vision center.

7. Cases of persistent hemianopia in which the dividing line passes to one side of the fixation-point, leaving it in the second half, are to be accounted for either (a) by the escape or partial recovery of the cortical center for the macula, or (b) by the acquirement by education of a new fixation-point in the retina.

8. Hemianopic visual spectra of low elaboration, such as red or green lights, or the varieties of scintillating scotoma in migraine, are caused by a discharge in the half-vision center in the cuneus.

9. Complex visual phenomena of hemianopic type, such as faces, animals, etc., are elaborated in a still higher visual center, which possibly is the angular gyrus; their occurrence in the half-field only being due to reflex irritation from a lesion generally in or near the cuneus, but which may be in the optic radiations or optic tract.

10. Double hemianopia does not necessarily cause permanent amaurosis, in many cases the return of a small area of central vision indicating the escape or recovery of the cortical center for the macula in the cuneus on each side.

11. The hemianopia in migraine is due to an epileptic discharge in the half-vision center of one side.

12. In many cases an epileptic discharge may originate in, or near, the half-vision center on one side, in some cases proceeding no further, beyond producing temporary hemianopia, in others producing a typical epileptic fit, and again in others giving rise to unilateral convulsions without loss of consciousness.

13. Transient hemianopia in such attacks may last for twenty-four hours or longer, and may be due to vascular softening adjacent to, but not involving the visual center or path.

14. Transient hemianopia is rare in ordinary Jacksonian epilepsy, and is not liable to occur unless the half-vision center be (1) already slightly damaged, or (2) hypersensitive and prone to spontaneous discharge, as in migraine.

15. Such transient hemianopia not unfrequently accompanies unilateral convulsions in general paralysis, and may possibly occur in uremia.

16. The auditory center may be similarly paralyzed through spread of the epileptic discharge.

Henchin has recently published a case of quadrantic hemianopia, the lower quadrants of the field being blind, due to a hemorrhagic cyst in the posterior part of the

pulvinar, which has destroyed the dorsal half of the external geniculate body, but left intact the optic tract and optic radiations, and he infers that the dorsal half of the external geniculate corresponds to the upper quadrants of the retinae, just as, in his opinion, the upper lip of the calcarine fissure corresponds to the same quadrants of the retinae. U.

Studies on the Gonococcus

Dr. Heiman publishes his third series of studies on the gonococcus in the *Med. Rec.* (Jan. 15, 1898). He reaches the following conclusions:

1. The gonococcus can be kept alive in certain liquid culture-media as long as eighty-two days.

2. It can be transplanted, probably indefinitely, from one culture-medium to another. The author succeeded in transplanting it twenty-five times.

3. Cases of gonorrhea really cured are free from gonococci. Fifteen cases of chronic urethritis, pronounced cured on clinical evidence, were found to be entirely free from gonococci, as judged by cover-glass preparations and cultures.

4. The statements of Strauss, Pescione and Eraud, that the gonococcus occurs in the normal urethra, is not satisfactorily proven by their own published experiments.

5. Rectal gonorrhea can often be detected by suitable examination. In two out of four of the author's cases, the bacteriological examination gave positive results.

6. Gonorrheal arthritis may be a sequela of ophthalmia neonatorum.

7. The author's experiments on the inoculation of the eyes of new-born rabbits and kittens with gonococci gave negative results. R.

Cerebro-spinal Meningitis Treated with Hot Baths

Dr. Wolisch (*Arch. de Gine. Obs. y Ped.*, No. 21, 1897) has employed hot baths in the treatment of cerebro-spinal meningitis in seven cases, all of them in children from 5 to 6 years of age; and of these only two terminated fatally, but in them the treatment could not be used conveniently. The method of procedure is as follows: The child is placed in a tub of water having a temperature of 33° C.; hot water is then added until the temperature of the bath is progressively, rapidly increased to 40° C. An ice-bag is placed on the child's head and he remains in the bath ten minutes.

The patient should be carried to the bath on a sheet held by two persons and placed

therein, sheet and all, care being taken not to touch the patient's head and avoiding all knocks against the sides of the bath-tub. He recommends placing cushions on the sides as the best way to avoid this. The same precautions must be observed on removing the patient from the bath. After being placed in the bed he should not be dried, but should be placed on a very dry sheet under which lies a blanket. He then should be slightly covered and thus remain for one hour. The effects of the bath present themselves in a short time; an evident deferescence is obtained, as well as a notable remission of the violent cephalic and cerebro-spinal pains, so much so that the patient soon drops off into a quiet sleep.

Wolisch has seen the fever diminish rapidly even after the use of but one bath daily. He likewise says that the disease terminates more rapidly with this method of treatment than with the other therapeutic measures, although the latter are not excluded. X.

Hysteria in Early Life

From both inference and analogy, according to A. A. Eshner, of Philadelphia (*Atlanta Med. and Surg. Jour.*, Nov., 1897, pp. 603), it seems not unreasonable to believe that hysteria depends essentially upon metabolic or nutritional changes in the cellular elements of the central nervous system, in consequence of which there may result alterations in function and changes in relation, whence arise the varied and protean symptoms of the developed disease. While perhaps not so uncommon in childhood as it appears to be, it is yet sufficiently so to warrant the report of a small group of cases by the author, illustrating some of the phases of the disease as it appears in early life, as well as some of the difficulties and doubts that at times attend its recognition. As to the causes, symptoms, course, and treatment of hysteria, these are much the same in children as in adults, except in so far as these are influenced by modifications dependent upon differences in mental and physical growth and development. Six cases are cited in detail by the author, ranging from seven to fourteen years of age.

Case 1, aged 9 years, was exceedingly emotional, crying readily and being subject to attacks of causeless laughter. Family history showed no evidence of neurotic predisposition. It was noted that the onset of convulsive seizures followed the ingestion of peanuts, meat, cabbage, coffee, etc., the seizures, at the time of observation, June 21, 1897, being repeated at intervals as frequent as every five minutes. Digestion poor and bowels constipated. It is admitted in this case that its features are as

strongly suggestive of epilepsy, thus emphasizing the difficulty of differentiating the two diseases.

Case 2, aged 7 years, was stamped with a diagnosis of hysteria, though fully alive as to its vulnerability and the possibility of deception on the part of both patient and clinician.

Case 3, aged 11 years, had never had a convulsion or loss of consciousness, but was emotional, and suffered frequently from sick headache, nausea, and vomiting, and sleep variable.

Case 4, aged 14 years, had been subject for two years to what were described as faints, in which she did not fall, though she seemed to lose consciousness. In these she clenched her fists, and on one or two occasions, she kicked, but had no well-defined convulsion. Duration of attacks lasted from five to thirty minutes, at the conclusion of which the child seemed exhausted and felt drowsy. The attacks occurred two or three times a week at intervals of two weeks and more. The child had never suffered from any serious illness, and though she was menstruating, the frequency of the attacks bore no apparent relation.

Case 5, aged 14 years, had been frightened some eight months before by masqueraders. The attacks recurred almost weekly, at the time of observation by the author, consciousness being lost for hours at a time, the seizures being characterized by rigidity rather than active movement, though at times she became violent. Attacks of dulness, despondency, and uneasiness alternated with emotional.

Case 6, also aged 14 years, had attacks, at intervals of several weeks, of course, rapid tremors of the right upper extremity, most pronounced in the hand, increased on voluntary movement. She had had four attacks of chorea between the ages of 6 and 9 years. This case illustrates one of the forms of motor disturbances that may attend hysteria. No line of treatment is suggested for either of the forgoing cases.

L.

Nephritis due to Malaria

Dr. Plicque (*Jour. des Praticiens*, No. 48, 1897) explains the action of malaria upon the kidney as follows:

Each febrile attack of malaria produces an increase of work and congestion of the kidney; as a result of it albumin is often found in the urine when the malarial attack is severe and in cases of chronic malaria with overworked kidneys where the patient is taken with new attacks. Those suffering from malarial paroxysms of hemoglobinuria

are especially apt to become affected by nephritis, due to the fact that the tubuli uriniferi become obstructed by the biliary pigment found in the urine in addition to the soluble blood-pigment. This is also the cause of unexpected crises of uremia, which are of frequent occurrence.

S.

Action of Oxalic Acid and its Derivatives on the Kidneys

In *Virchow's Archives*, 1897, W. Ebstein and A. Nicolaier undertake to study the relation of oxalic-acid formation to the production of urinary calculi.

The authors' results were negative with respect to this particular line of inquiry, but a number of correlative facts were established. Oxalic acid was found to cause an appearance of a deposit of calcium oxalate in the urinary tubules; these deposits can often be seen by the naked eye. Oxalic acid is eliminated as a calcium salt in the urine.

J.

Headache in Nasal Disease

F. De Havilland Hall (*Brit. Med. Jour.*) says that prominent among the causes of headache is disease of the nose. In fact, there is hardly any nasal affliction that has not headache for a symptom. Chief among the nasal causes of headache the author mentions hypertrophy of the turbinates, giving rise to nasal stenosis; deflection of the nasal septum. Headache may be the only symptom indicative of suppuration in one of the sinuses.

He cites Kuhn, of Würzburg, as reporting three cases of syphilis of the naso-pharynx, the chief symptom of which was otalgia. This experience points to the necessity of a careful examination of the naso-pharynx in all cases of otalgia. Scheinmann, in a paper on Habitual Headache, sums up the chief symptom of various nasal affections:

1. Habitual headache finds its explanation in many cases in affections of the nose.

2. In severe and threatening nasal diseases it is often for a long time the only prominent symptom.

3. This knowledge imposes upon us the duty, in habitual headache of unknown origin, of looking out for a local cause in the nose.

4. The presence of a neurasthenic condition does not exclude a local point of departure for habitual headache.

5. The demonstration of the nasal origin of headache has for the most part a favorable influence on the prognosis, as nasal therapy gives good and permanent results.

G.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
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The Effect of Formalin-gelatin on Suppurating Wounds

Dr. E. M. Foote (*Am. Jour. Surg. and Gyn.*, X, 90) says that formalin-gelatin is prepared by exposing sheets of moist gelatin to formalin vapor, then drying and grinding to a fine powder. According to Schleich the results of the formalin-gelatin treatment are due to the digestion of the gelatin by the juices of the wound setting free the formalin vapor. After proper incision and curettement, the wound is thickly dusted with the powder and closed, primary union being looked for. After a trial of forty-five cases the following conclusions are arrived at. Formalin has a strong antiseptic action, but one could not say that it rendered a suppurating wound sterile. "It seems to control the infection for two days; and if the character of the wound was such as to insure its closure, the result was perfect. If not, then whatever gain was made in the first two days, was maintained, and the wound went on with its customary granulating from that point." There is more or less pain from the use of formalin-gelatin, lasting from four to six hours after the application. T.

Treatment of Acromio-clavicular Dislocation

Dr. Thomas L. Rhoads (*Annals of Surg.*, 1898, XXVII, 40) says that in the great majority of dislocations of the acromio-clavicular joint, the clavicle rides over the acromial process of the scapula, rarely this being reversed, and the clavicle catching beneath the process. This is accounted for by the peculiar anatomical formation of the joint. The injury producing this form of luxation is a blow on the posterior aspect of the shoulder, striking over the acromion or over the spine of the scapula. The diagnosis is easily made after forward luxation of the humerus has been eliminated. In the treatment it is essential both to reduce the dislocation and then to keep the clavicle in position, the former of these being easy, the second very difficult. A case is quoted, in which, after making several unsuccessful attempts, with a Desault bandage and with adhesive strips, to keep the clavicle in place, the following dressing was resorted to: A wedge-shaped pad was put in the axilla and a folded towel across the shoulder over the seat of injury.

A two-inch leather strap was carried around the elbow and up over the acromial end of clavicle, and tightened as much as the patient could bear. The strap was retained in position by a bandage passing around the chest and the arm retained to the side by numerous turns of a roller bandage. The buckle of the strap was left outside the dressing so that the strap could be from time to time tightened, as the occasion demanded. After two or three weeks the strap was taken off and replaced by a spica, the result being all that could be expected. T.

Vomiting from Peritoneal Adhesions, Cured by Abdominal Section

H. G. H. Naylor, in the *Austral. Med. Gaz.* (1897, XVI, 592), tells of a patient, aged 44, that has had a history of irregular vomiting for the past eighteen years. She was losing weight fast, and as the various treatments for gastric catarrh gave no relief it was decided to operate and stretch a supposed pyloric stricture. This diagnosis was based on the presence of constipation, vomiting of undigested food and fairly rapid loss of weight. On opening the abdomen the stomach was found firmly fixed by numerous adhesions both above and below. These were torn through and the gastric wall incised, but no stricture was found, and the stomach was immediately sewed up. All adhesions which could be, without danger, were broken up, and the stomach was freed in all directions except toward the liver, where the adhesions were too firm and too deep. After the operation there was no return of the vomiting, and the patient appeared cured. T.

Extraperitoneal Rupture of the Bladder Complicated by Fracture of the Pelvis

James F. Mitchell, M. D., in the *Annals of Surg.* (Phila., 1898, XXVII, 151), reports the case of a woman 52 years of age who was thrown from a wagon, the wheels passing over the hips and lower abdomen at the level of the anterior iliac spines. Diagnosis of rupture of the bladder was made from the existence of blood in the urine, obtained by catheterization, and from the inability to draw off more than one-half of an injected boric-acid solution. Operation showed an extraperitoneal rupture and the extravasation of a large quantity of bloody urine. The wound of the bladder was united with silk sutures and incisions were made in the inguinal regions in order to drain the cavity resulting from the extravasation. The conspicuous part of the after-treatment consisted in the use of the contin-

uous water-bath at a temperature of 100° F. The patient was permanently removed from the bath forty days after the operation. Ten months after the accident the patient had recovered her normal state of health, urine clear, walks without difficulty, and no mobility at the seat of fracture could be detected. The following remarks are based on an analysis of ninety collected cases, in which the injuries were similar to the above. The accident is most frequently met with in men and women between the ages of 20 and 60. Alcoholism is a strong predisposing factor. In 63 per cent. of the cases the rupture communicated with the space of Retzius, and in 21 per cent. the lesion of the bladder was due to direct penetration from a displaced or broken bone. The commonest place of fracture of the pelvis is the pubic bones and separation of the symphysis is of frequent occurrence. The symptoms vary according to extent and seat of the lesions, and the diagnosis of rupture of the bladder is made by the presence of bloody urine, by being able to recover only a portion of an injected boric-acid solution, by extravasation, tumefaction, etc. The prognosis is always grave, the mortality during the past fifteen years being 70 per cent. The treatment is plainly indicated, "immediate relief of extravasated urine and the prevention of reaccumulation by proper drainage and suture." So far as fracture of the pelvis is concerned, little is to be done except to fix the parts, though it is sometimes necessary to remove spicules of bone and wire the fragments together. The bath treatment is of great value and should be used without hesitation.

T.

Surgery of the Gall-bladder and Ducts

J. McF. Gaston, of Atlanta (*Virg. Med. Semi-Monthly*, Dec. 10, 1897), in a paper on this subject, is of the opinion that the prime question for consideration is the practicability of adopting some measure of treatment which shall restore the function of the liver and preserve the office of the gall-bladder. In case the derangement should prove to be irremediable, excision of the gall-bladder is indicated, attention being appropriately directed to the operation of cholecystotomy, as first practiced by Von Langenbeck. When the common bile-duct remains impermeable an artificial connection of the gall-bladder with the duodenum may be made, its claim to consideration resting chiefly upon the great importance of bile in the digestive and assimilative processes, during the passage of food through the upper portion of the small intestine. The entire removal of the gall-bladder, in

cases of atrophy or degeneration of its tissues, has been resorted to without serious interference with the biliary functions, except that the bile flows directly through the common duct into the duodenum instead of having a portion reserved in the storehouse for future use. The continuous discharge of bile by a direct outlet from the gall-bladder into the duodenum, when the common duct is entirely occluded, certainly fulfills the ends more satisfactorily than the formation of a cutaneous fistula for its escape externally. In excision of the gall-bladder the dissection of the adherent layers of the sac from the under surface of the liver does not seem to be called for, as in one of the author's canine experiments the outer wall of the sac underwent disintegration, while the adherent tissue was still firmly united to the under surface of the liver; thus the surgical procedure may be materially simplified in cholecystectomy. Excision or extirpation of the gall-bladder is not expected to supply the place of other processes for correcting its disorders, but is a dernier ressort in view of the inadequacy of any means for restoring the functions of this organ and for rehabilitation of the surrounding structures. When the gall-bladder and cystic duct become obnoxious to adjacent tissues so as to cause local disorders and general derangement of health, they no longer subserve the ends for which they are provided; their removal is, therefore, rational and philosophic. The operation is not warranted in cases of temporary obstruction of the cystic duct, which admits of relief by mechanical or other means, excepting when disorganization of the sac is imminent. In the record of pathological changes connected with biliary derangement, hepatic abscess may form when the biliary channels become affected from obstructions, with the presence of inspissated bile or concretions in the gall-bladder. Delay in undertaking the appropriate measure of relief brings disintegration of structure. Stenosis of the bile-ducts may be due either to foreign bodies within the ducts, diseases of its walls, or tumors external to ducts. With the light before us, it is clear that an effort should be made to overcome temporary obstruction, and if concretions exist which cannot be removed in either direction by pressure from without the canal with the fingers, an effective recourse is found in adopting the expedient for crushing the masses with padded forceps and leaving the fragments to be flooded out by the bile; this suits cases not requiring incision of the sac, though a temporary biliary fistula may be made. In comparing different measures adopted by surgeons for the relief of a

distended gall-bladder, their relative advantages depend upon the greater or less probability of restoring the bile to the intestines. Should bile be restored to its natural channel by an operation, the closure of the incision in the sac and dropping it into the abdomen, with complete suture of the external wound, are advisable. With a view to diagnose distension of the gall-bladder, all tumors connected with the liver should be examined with care. L.

The Electro-magnet of Hart in the Removal of Pieces of Steel From the Interior of the Eye

Dr. J. E. Weeks, New York, presented a paper at the Ophthalmological Section of the American Medical Association, in which he reported three cases in which he used this instrument successfully. Cocaine anesthesia was used in each case. The wounds of entrance were enlarged in each case. The wounded eye was then brought to the point of the magnet. In two cases, when the eye was within 4 mm. of the magnet, the piece flew out and adhered to it. The resulting vision in one of the cases was 20/30+.

In the third case the foreign body had buried itself in the sclera inside the optic nerve, and it was necessary to enucleate.

Besides being an advantage in cases of this kind, Dr. Weeks believes it to be of advantage in diagnosing the presence of pieces of iron or steel within the eye. K.

The Extraction of Foreign Bodies from the Esophagus through Natural Channels

According to Dr. Emilio Martinez (*Archivos de la Policlínica*, Jan., 1898), a foreign body in the esophagus may be removed in three ways: it may be extracted through the mouth, expelled by the stomach, or an external esophagotomy may be performed.

When the foreign body is large it rarely passes beyond the cervical portion of the esophagus, and it exerts more or less pressure on the trachea. These cases demand an immediate interference. It is sufficient to place the fingers on both sides of the neck and so compel the foreign body to slide toward the pharynx, whence it may be removed by using the fingers in the manner of a lever.

Extraction through the mouth is indicated in all cases where the existence of a foreign body is recent and the nature of the body permits it. The instrument employed must be selected in accordance to the nature of the foreign body. The instrument devised by Graefe, intended to catch coins, may be used to remove buttons, medals, and flat objects; but outside of these cases it

should not be used, because the instrument is apt to be caught together with the foreign body, thereby rendering necessary an external operation.

Fergusson's horse-hair "umbrella" should be chosen if the foreign body is of small dimension. The instrument is introduced closed, returning open, the foreign body being caught in the horse-hair.

If this method should fail we may employ Crequy's method. This writer recommends the introduction into the esophagus of a bundle of threads attached to a guide, likewise of strong thread. The patient swallows this, together with some food, and when it reaches the level of the foreign body, it causes efforts at vomiting, which is further facilitated by exerting traction on the guide, thereby expelling fragments of bone, etc.

The esophageal forceps is without doubt the best instrument, because it can be used with a knowledge of what one is doing. Traction is made upon the foreign body, not propulsion upward. Violent handling should be avoided.

Of the various esophageal forceps, none is better than the flexible tubular model, which can be introduced with ease, adapting itself to the diverse curves of the esophagus, and can be manipulated at any level.

The "propulsion" of foreign bodies toward the stomach is indicated in all cases where the foreign body is large, soft and inoffensive, such as an alimentary bolus of fragments of potatoes, also spherical bodies which are difficult to catch with the forceps, glass balls, round and smooth, seeds, etc. The operation is easily performed with an olivary sound or with a common hard rubber esophageal sound. In the absence of these, a stout wire, at the extremity of which a sponge is fixed, may answer the purpose.

G.

Surgical Tuberculosis

Dr. L. T. Riesmeyer, St. Louis (*Med. Rev.*, Oct. 30, 1897), is impressed with the idea that total extirpation of tuberculous glands is above all indicated in those cases in which there exists no tuberculosis of the lungs, nor any other additional tuberculous focus. This applies more especially to that of the mammary glands. Where in tuberculous lymphatic glands the suppurative process has penetrated the capsule, with the establishment of a periadenitis, a simple incision for the evacuation of pus is frequently more advisable than thorough curetting. This is particularly true in cases of cervical tuberculous lymph-adenitis where the lungs are also tuberculous, as in the latter instances the author has frequently noticed a most pronounced aggravation of the lung-trouble

after each curetting. The injection into tuberculous foci of carbolic acid or iodoform emulsion has undoubtedly a beneficial influence in some cases, but in the hands of the author the results obtained by this treatment were not permanent, equally good results being obtained by immobilization alone. L.

Case of Pernicious Anemia Following a Blow

M. Bret (*Le Bull. méd.*, No. 104, p. 1205, 1897) gives account of a case of grave anemia following traumatism of the precordial region—the sudden blow of a crank. Decline set in and health rapidly failed. The skin and mucous membranes became discolored, dyspnea and edema of legs set in. Inspection showed ecchymosis on the thorax, where the blow was received. Cardiac dilatation was associated with deep systolic murmur over the whole precordium. The liver was enlarged and came below the false ribs. Iron, arsenic, and bone-marrow did not help him. Nose-bleeds, punctiform retinal hemorrhages, anorexia, and diarrhea in turn developed until death resulted six months after the injury. Autopsy, carefully made, showed absence of neoplasm, but presence of changes in liver and heart.

This case supports the American contention that a nervous, traumatic, or emotional influence may preside over the development of pernicious anemia. Another point of great interest is the change in the heart, following an injury over it. H.

The Surgery of Typhoid Fever

Dr. Hugh M. Taylor says (*Georgia Jour. of Med. and Surg.*, Vol. II, No. 1) that the experience he has had in treating typhoid-fever perforations has convinced him of the correctness of the following conclusions:

1. Perforating typhoid ulcer can be and should be diagnosed prior to the development of local or diffuse peritonitis, septic or fibrino-purulent.
2. A perforation of a typhoid ulcer into the peritoneal cavity means the discharge of virulent septic contents in quantities far too large to justify the hope of its being circumscribed by plastic peritonitis.
3. Diffuse septic or fibrino-purulent peritonitis, with inevitable death, if left to the resources of nature, is the unvarying result of this complication of typhoid fever.
4. The treatment of complete typhoid perforation is essentially surgical, and the surgical treatment is logically conservative. The treatment of uncontrollable hemorrhage with the view of preventing immediate danger and subsequent increased anemia, is

probably within the domain of rational surgery. Rectal, cellular and direct transfusion is a resource of great value in the treatment of (a) shock, (b) hemorrhage, and (c) probably ptomain-poisoning.

5. The death-rate is large in spite of and not because of operative interference, and in complete typhoid perforation is increased by each hour of delay in resorting to operation.

6. The idea should be impressed that the time often conceded by the physician as warranting operation, i. e., the developed condition of diffuse peritonitis, is the time practically conceded by the surgeon to be too late, the case having then passed, with few exceptions, beyond the province of rational surgery.

7. Not even a moribund condition should justify us in abandoning patients with typhoid perforation, since suppurative peritonitis from just as desperate sources has been brought within the scope of successful surgery by an improved technique.

8. The statistics, though too few to be conclusive, support the opinion that timely surgical interference is conservative rather than radical. Of fifty-two cases recorded, seventeen recovered—a percentage of 32.68. R.

The Indication of the Pressure-bandage in Eye-disease

Dr. Herrnheiser, *Die Aerztliche Praxis* (Vol. XI, No. 1, 1898), believes that the pressure-bandage is indicated in all cases where the mobility of the eyelids or eyeball is apt to injure the diseased organ. In fresh injuries of the cornea, bandaging is followed by relief of pain and rapid regeneration of the destroyed tissue. In ulceration and all suppurative processes of the cornea threatening perforation, the bandage exercises a very beneficial effect by counterbalancing the intraocular pressure, which is the cause of the extreme pain experienced by the patient. In such cases the dorsal position is also of great service. The pressure-bandage is often preferred to the forceps and scissors, in prolapse of the iris; the same may be said in cases of ectatic corneal cicatrization, provided it is very acute in character, for whenever the pressure is on the increase, iridectomy cannot be dispensed with. In injuries of the eyelids the bandage is to be applied after the soft parts have been brought together. In such cases it is advisable to bandage both eyes, in order to insure complete immobilization of the eyelids. As a postoperative measure the bandage is of inestimable value, and only recently has it been omitted by some ophthalmologists after cataract opera-

tions. Acute dacryocystitis forms another indication for the pressure-bandage.

If the diseases requiring the pressure-bandage are complicated by conjunctival hypersecretions, the bandage must be changed two to three times a day or omitted entirely. The bandage is also contraindicated in eczematous blepharitis, conjunctivitis and keratitis, and if used at all it must be applied to both eyes. S.

Sclero-corneal Suture for Hemorrhage after Cataract-extraction

Dr. A. Trousseau states in *Arch. d'Ophthalm.* (No. 2, p. 106, 1897) that his experience with a sclero-corneal suture for hernia of the iris and vitreous led him to think this procedure might be the most suitable to employ against hemorrhage, since no one has faith in the hemostatics in such cases. Accordingly, when a hemorrhage took place immediately after applying the dressing in a patient of 62 years, in whom a violent chill and vomiting had set in, catgut 000 was at once applied and the lips of the wound coapted with immediate arrest of bleeding. The hemorrhage was considerable and enucleation inevitable, had the suture not been employed. A half-hour later the dressing was again completed. Pains persisted for four or five hours, after which recovery was without event. The patient resumed work in fifteen days. Up to the present the eye has retained its form and volume though deprived of vision.

H.

Sterilization of Ophthalmic Instruments

Dr. E. A. De Schweinitz, Washington, D. C., in a paper quoted in the *Ophth. Rec.*, 1897, advocates the use of formaldehyd vapor, obtained by placing in a tight box a small dish of formaldehyd, to which has been added a small bit of calcium chloride. The instruments should be cleaned and placed in the box. They will be sterile within ten minutes, though they may be left with impunity for hours. K.

The Present Status of Our Knowledge of the Etiology of Cancer

Dr. Roncali (*Centralbl. f. Bakt. u. Parasit.*, Vol. XXI, No. 8-10, 1898), in an extensive paper on the above subject concludes as follows:

1. In malignant growths of man and animals, bodies are found in the protoplasm of the cell and connective tissue, which do not originate from the cells, but are foreign to animal tissue. (Roncali, Sanfelice, Rossi, Doria, Aievoli, d'Anna, Binaghi).

2. These bodies are morphologically identical with the so-called coccidia which have been found by various authors, inclosed in the cells of epithelioma and sarcoma (Roncali, Sanfelice).

3. These bodies are also morphologically identical with the blastomycetes, which may be met with in the tissues of animals inoculated with organized ferments (Sanfelice, Roncali).

4. These bodies resist concentrated acids and alkalis in the same manner as the blastomycetes, which may exist in the tissue of inoculated animals (Roncali, Sanfelice).

5. These bodies are found less frequently in malignant growths; exceptionally in other pathological processes (Sanfelice, Roncali).

6. These bodies are distributed in certain localities in the new formations of man; they may be found in the periphery of the newly formed tissue, i. e., where the growth is on the increase, but not in the center of the tumor where growth has ceased and degenerated elements have appeared. Furthermore, its seat is either in the cell-protoplasm, or between the bundles of the base-substance, and exceptionally in the nucleus. From these observations it may be concluded either that these bodies are merely of accidental occurrence, or that they are closely related to the new formation (Roncali, Sanfelice).

7. These bodies react to a specific method of staining, which affects also the pure cultures obtained from the malignant neoplasms of man and animals (Kaline, Sanfelice, Curtis, Pianese, Corselli and Frisco, Roncali).

8. In examining these bodies, obtained in pure culture from malignant tumors of men and animals, it has been found that they are blastomycetes, and that when inoculated in animals they penetrate into the cells of the pathogenic tissue and between the fibers of the connective tissue, where they reproduce the same forms of cell-enclosures which are found in the tumors of man and animals, from which these blastomycetes have been isolated in pure culture (Sanfelice, Curtis, Corelli and Frisco, Mafucci and Sirleo).

9. These bodies give the reaction of cellulose in the same manner as the blastomycetes in the tissues of animals, into which they penetrated through inoculation of the pure culture (Binaghi).

10. The lesions produced by a few blastomycetes in the animals experimented upon, vary according to what species the animal belongs to. Mammalia of the higher orders (dogs) are less susceptible to infection by the blastomycetes than those of the

lower ones (guinea-pigs, mice, rabbits, rats, etc.). It has been demonstrated that while a few blastomycetes produce infection and widely distributed colonies in the lower classes, only localized colonies may be met in the higher ones; and while they are found in large numbers in all parts of the organism of the lower order, we meet in the higher one the same arrangement of enclosed bodies as observed in the tumors of man (Sanfelice).

11. A few blastomycetes may produce in the animals experimented upon lesions of neoplastic, but not inflammatory character (Sanfelice, Roncali).

12. Finally, certain blastomycetes, when inoculated in pure culture in the mammary glands of a bitch, may cause new formations epithelial in nature (Sanfelice). S.

A Case of Floating Gall-bladder and Kidney Complicated by Cholelithiasis with Perforation of the Gall-bladder

A. V. Wendel, M. D., in the *Annals of Surg.* (1898, XXVII, 199), reports the case of a woman, 23 years of age, who had suffered with constipation and pelvic distress since her only confinement, four months before. On palpation of the abdomen, an ovoid tumor some five inches in length was felt, and also it was discovered that the right kidney was "very loose." The position of the tumor changed from day to day, having pretty much the whole range of the abdomen. She refused operation. Six months after the above examination the patient was "suddenly seized with severe pain in the right iliac region, faintness, vomiting, high fever, and abdominal distension." Operation again refused. Six months later she returned and allowed herself to be operated on. The operation revealed an abscess communicating with the gall-bladder and containing gall-stones and stinking pus. The gall-bladder was freed from its adhesions and removed. The kidney was restored to its proper place and the abdomen closed except where a gauze drainage was inserted. In four weeks the wound was entirely healed, and "she has remained well up to the present." T.

Treatment of Brain-tumors

Ernst von Bergmann ("Die chirurg. Behandlung d. Hirngeschwülste," *Volkmann's Klinische Vorträge*, No. 200, Dec., 1897) recommends greater moderation in brain-surgery. He considers the dangers to be apprehended from shock, infection, edema, and possible prolapse of brain substance,

and the risk of the formation of scar tissue inducing epileptic attacks, sufficiently great to contraindicate craniotomy in all cases where a positive diagnosis cannot be made. Tumors of the central convolutions are those easiest to diagnose and most likely to permit of successful removal, new growths in the temporal, parietal, or occipital lobes can be definitely located only when they encroach on the central convolutions sufficiently to give rise to motor disturbances. In addition to the customary motor symptoms, ophthalmoscopic examination is capable of giving much assistance in diagnosis, choked disk is almost invariably present and its character often permits an opinion as to the probable size of the tumor. General systemic treatment of tubercular nodules and gummata gives a better prognosis than operation, but when a tumor of another variety is suspected, although the presence of either of the above is possible craniotomy is indicated. J.

The Control of Nasal Hemorrhage

During the past year Dr. E. B. Gleason (*Laryngoscope*, March, 1898) has treated severe post-operative nasal hemorrhage by simply wrapping a large piece of absorbent cotton loosely about a probe and thrusting it, dripping with a fifteen-volume solution of peroxide of hydrogen, along the floor of the nose until the pharynx is touched. The mass of cotton should be large enough to completely fill the inferior meatus. So great is the pressure caused by the increase in bulk of the clot already within the nose, and liberated gases, that it is necessary, in most cases, to hold the cotton in position for a few moments with the finger-tip, during which time the probe is withdrawn. If necessary, the plug of cotton is then held in position by means of smaller pieces of absorbent cotton, saturated with peroxide, packed into the anterior naris in front of it.

To prevent recurrence of the hemorrhage when the plug is removed, the mass of cotton should be removed very slowly, with steady, gentle traction exerted at intervals of two or three minutes in order that five or ten minutes elapse before the plug is entirely withdrawn from the nose. The parts should be left unmolested for at least twenty-four hours. They should likewise be handled with the utmost gentleness. The patient should also be cautioned not to touch the parts. G.

Hyposulphite of lime in 20-grm. doses, six times a day, is claimed to arrest hemorrhage of all kinds.—Silvestri, *Sem. méd.*, No. 2, 1898. S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

The Technique of Abdominal Hysterectomy

Dr. J. F. Baldwin (*Columbus Med. Jour.*, XVIII, No. 13) cites a method of the technique of abdominal hysterectomy whereby he saves time, synchronously securing a smooth pelvic floor, with the slightest possible exposure of raw surface.

After opening the abdomen in the usual way, by a free incision, he draws up the uterine mass and clamps the most accessible broad ligament, just outside of the ovary, the long clamp being directed downward and inward toward the uterus. An ordinary hemostatic forceps, or short clamp, is then attached to the upper border of the ligament next the uterus, to prevent recurrent hemorrhage through the ovarian artery. The broad ligament is then severed along the clamp first applied; the opposite broad ligament is treated likewise. The peritoneal flap is made in front of the uterus, between the tips of two clamps, the bladder separated from the uterus, a similar but shorter flap is made posteriorly.

The layers of broad ligament are separated on each side, between the clamp and the uterus, and the uterine artery is seized with a long forceps. The uterus is then detached at or below the level of the internal os, so as to give out an anterior and posterior flap of uterine tissue.

The uterine mass is now removed, and the pelvis is empty, and hemorrhage controlled. The uterine artery on each side is ligated. The wound is seized with a forceps next to clamp, so as to prevent its retracting, and the clamp removed from broad ligament. The ovarian artery is caught and drawn out from between folds of broad ligament ligated with fine silk and projecting end cut off. The same is done on opposite side. A long silver probe is now threaded with iodoform gauze, about one inch wide, passed through cervical canal and seized by assistant. The gauze is cut flush with bottom of wound. It keeps cervical canal clean and insures drainage of wound in case of oozing.

The uterine flaps are brought into apposition by a running suture. With first insertion of this suture upon one side, the round ligament on that side is brought down and transfixed, so as to be implanted when the suture is tied, between flaps on

that side. This is also done with opposite wound ligament.

Commencing next at upper edge of one broad-ligament stump, the peritoneal layers are inverted, and with a kangaroo tendon, or catgut, a continuous "over and over" suture is applied, running down the broad ligament, then across over the cervical stump, turning in peritoneal flaps as it proceeds, and up on the opposite side. This suture should be so inserted as to draw together snugly the tissues of the broad ligaments, which being thus singly apposed, unite so as to make excellent supports for the stump in addition to the round ligaments. The operation as thus completed leaves a perfectly smooth pelvic floor, with, at no point, the exposure of any raw surface.

The advantages of this method of operating are:

1. Such a shutting off of the vagina as to reduce to a minimum any danger of infection from that source.
2. The ligature placed around the uterine artery is entirely outside of uterine wound, and being of fine material and buried in the tissues, is much less likely to give trouble.
3. The snug closing of cervical tissue prevents oozing.
4. The smooth peritoneum in the floor of pelvis having no projection stump or raw surfaces, reduces to an absolute minimum the danger in intestinal adhesions.
5. The implantation of the round ligaments and puckering in of the stumps of the broad ligaments prevents prolapse of cervical stump and vagina.
6. The use of clamps on broad ligaments obviates hemorrhage, leaves the parts in better shape for the subsequent steps of the operation, and saves considerable time.

V.

Injuries Received by the Child during Birth, and Their Prevention

In a valuable paper by F. S. Clark (*Cleve. Med. Gaz.*) he enumerates first the conditions which leads to asphyxia and hemorrhage. These act by obstructing the circulation, either placental or fetal, whether the obstruction is directly applied, as to the cord, or indirectly from continuous pressure to the head through prolonged labor or abnormally severe pains in a shorter labor. A full bladder or impaction of feces may prolong labor very materially and serve as really a very effective obstruction to its termination till removed. Premature rupture of the waters, hypertrophy of the cervix (cicatricial), or a new growth acts in the same way. Contraction of the cervix around the neck of the child prolongs the second stage.

and with after-coming head often proves fatal. A rigid perineum or exhausted uterus are two other causes of prolonged labor. The one which too seldom receives attention is pelvic deformity, but since general practitioners, who do most of the obstetrical work, do not measure pelves, we are not in a position to assert positively that deformities are rare. Contracted pelves are a source of danger, also, in that they are a frequent cause of abnormal positions and prolapse of the cord. A prolonged pregnancy resulting in an advanced stage of ossification of the bones of the head, a hydrocephalic head, twins, and abnormal positions, are causes, existing in the child, of protracted labor. The author then takes up the results of these obstructions, asphyxia being the most prominent, and which is seen in three grades: First, where mucus exists in the air-passages, which is usually easily remedied; second and third, known as sthenic and asthenic, are caused by too much blood-pressure, as from prolonged and difficult labor, and by too little blood where the placental circulation is interfered with. It is most important to recognize the variety, because the proper treatment depends upon this. It is not in the asphyxia itself that all fatalities arise, but in the complications resulting from it. These may be congestion, effusion, thrombosis, extravasation, destruction of membranes and cystic degeneration, which results are not surprising when we consider the delicate nature of the fetal brain and its membranes. Intra-cranial hemorrhages, another result of obstructed labor, have been found to be meningeal, in origin, in the majority of cases. The hemorrhages may vary from a general distribution of blood over the surface of the brain to localized clots, either large or small, the presence of these depending on the length of life after the hemorrhage occurred. Where the hemorrhage does not terminate fatally, it usually injures the brain to such an extent that either cerebral palsy or idiosy, or both, result. It was claimed by Cruveilhier that one-third of the deaths during parturition was due to meningeal hemorrhages; and Gowers states that where convulsions, rigidity, and paralysis occur, meningeal hemorrhage will be found. A few points in the matter of prevention of these injuries are most important and too frequently neglected. The routine measurement of pelves by all practitioners will often save many lives; the knowledge that such deviations are present will lead to a more careful observation of the progress of a labor and a preparation to act intelligently when the child's life is threatened because the labor has been prolonged by the ob-

struction. Equal with pelvimetry is the study of the fetal heart, which is generally neglected. Labors may also result disastrously to the child because of severe and long-continued pressure to the child's head interfering with the circulation. Force should then be applied. The slightest of injuries is caput succedaneum, and though it rarely takes an unfavorable course, may be associated with some intracranial injury when a more serious outcome is to be expected. More severe and more likely to cause trouble is cephalhematoma. This may appear after a severe or easy labor and cannot be prevented. It usually absorbs within a few days and rarely suppurates. Unless it is connected with internal hemorrhage, it seldom proves fatal. Hematoma of the sterno-mastoid muscle and facial paralysis from pressure of the forceps seldom prove serious, though the torticollis following the former may be more or less permanent. A careless application of force may cause a more lasting paralysis, when, by making traction in the axilla, the brachial plexus is injured, while in version an arm or leg may be fractured also. The two conditions most disastrous to the child, however, are asphyxia and intra-cranial hemorrhage, for if they do not result fatally, they, and especially the latter, very frequently cause permanent injury to the brain. L.

Drugs Which Should not Be Employed during Pregnancy

M. Boissard, in the *Jour. des Praticiens* (*New York Med. Jour.*, No. 982), says that, in a general way, all therapeutical intervention should be incriminated when it is followed by abortion or premature labor. Emmenagogues should be banished from the treatment, not only of pregnant women, but in the case of those in whom there is a suspicion of the possibility of the beginning of pregnancy.

According to Boissard, there are no abortive drugs, in the strict sense of the word, but there are drugs which, given in toxic doses, may cause at the same time both abortion and the death of the woman; these drugs are therefore useless and inefficacious, and there is danger of poisoning to the woman.

The ebolic and oxytocic drugs belong to another class, and have the property of arousing and aiding the progress of uterine contractility, or of strengthening the intensity of the uterine contractions after they have been aroused; the action of the latter is certain, that of the former doubtful.

The action of quinine sulphate and of sodium salicylate is not to provoke abortion

or premature labor. Drugs that have that property may, however, be advantageously employed in cases of contraction of the pelvis, in which it is expressly indicated to interrupt the course of pregnancy.

The abortive or ecboic action of quinine sulphate has been discussed by many writers whose investigations and experiments show that this drug should not be considered as an abortive agent. In several cases in which there was contraction of the pelvis, and it was necessary to interrupt the pregnancy, this drug was given every day in large doses without producing the least symptoms of labor, yet it was given in amounts that, if not toxic, were at least sufficient to cause quinine-intoxication.

M. Boissard thinks there should be no hesitation in employing quinine sulphate during pregnancy whenever symptoms of malarial infection manifest themselves, and these cases are rather frequent, pregnancy serving to arouse in some way the previously dormant infection. It is the same with sodium salicylate; only ergot, because of its oxytocic properties, should be rejected, even in cases of hemorrhages during pregnancy, in order not to cause titanization of the uterine fibers.

Narcotic, analgetic, or anesthetic drugs may be administered without fear where their employment is justified, and may be of great benefit to the parturient woman. The different preparations of belladonna and of stramonium may be employed, also antipyrin, opium, chloral, and chloroform, or ether. In case of threatening abortion, laudanum is admirably borne, and as much as a hundred drops, in enemata of boiled water, may be given during the twenty-four hours, twenty-five drops at a time being the amount used. This is true also of chloral in vomiting, and of chloroform, which is employed during pregnancy to clear up the diagnosis and ascertain the exact configuration of the pelvic cavity, in order to reduce retroversion of the gravid uterus, and to facilitate version by external means.

The different mercurial preparations are administered, not only in cases of acknowledged syphilis, but also in doubtful and unacknowledged cases where the physician finds himself in the presence of a series of abortions or premature births of macerated infants. Concerning the administration of purgatives under the pretext that in the beginning of pregnancy it is dangerous to use purgatives, some women reach an extraordinary condition of constipation, which is much graver than the possibility of the danger they fear. In a general way, it is of great advantage to keep the functions of the

intestines in a good and regular condition by the use of castor-oil, cascara, senna, and enemata of boiled water. With regard to bathing, this favors the functions of all the organs, and particularly of the skin, and pregnant women may, and should, take baths during pregnancy, one every fifteen or twenty days, at the least, observing the following precautions: Not to bathe at a time corresponding to the last appearance of menstruation; not to allow the temperature of the bath to be above 96.4° F.; not to remain in the bath longer than fifteen minutes, and to guard against taking cold on coming out of it.

Concerning vaginal injections, M. Boissard is in favor of their general use, and thinks the necessity of their employment should be explained to women. Some precautions are given to their use, and if they are observed, accidents resulting from the action of the hot water on the uterine fibers will be avoided, also any traumatism to the neck of the uterus. U.

Tubal Pregnancy and Vaginal Celiotomy

Dr. Dührssen, *Arch. f. Gyn.* (Vol. XIV, No. 2, 1897), attributes tubal pregnancy to peritoneal adhesions following perisalpingitis, resulting in change of shape and direction of tube, or to catarrhal, usually gonorrheal inflammation of the tubal mucosa, accompanied by an arrest of the peristaltic movements of the tube and loss of the cilia of the cells. In both cases there is a hindrance to the passage of the fecundated ovum toward the uterus, while the penetration of the spermatozoa is facilitated. The author advises the extirpation of every tubal pregnancy as soon as it is diagnosed. Anemic patients must be prepared by injections of artificial serum immediately before operating.

The procedures of his operation consist in:

1. Opening of the abdominal cavity through the anterior cul-de-sac.
2. Detachment of the peritoneal adhesions and drawing down of the fundus of the uterus and of the tube.
3. Ligation and section of the adnexa.
4. Replacement of the uterus; closure of the peritoneum and vaginal incision.

In cases of retroflexion of the uterus, he performs vaginal fixation.

This operation is, in the author's opinion, preferable, to abdominal celiotomy, as the operation is less severe, without shock and consecutive necrosis or suppuration, and recovery is much more rapid. S.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M D., WILLIAM J. ROBINSON, M D.

Validol.

Menthol and valerianic acid have been combined by Schwersenski (*Pharm. Ztg.*, Vol. XLII, p. 787) to form a valerianic-acid menthol ester which he recommends as an efficient analeptic and antihysteretic. This remedy, to which the name of "Validol" has been given, is described as a colorless, limpid fluid of the consistency of glycerin, and possesses a mild, agreeable odor and a refreshingly cool, faintly bitter taste. It is a good solvent of menthol, and hence permits the latter to be applied in larger quantity than is contained in validol itself. The remedy is given in doses of from 10 to 15 drops per day, on sugar. F.

Crealbin

A combination of creolin and albumin, resembling ichthalbin and tannalbin, has been introduced by Risselada (*Pharm. Ztg.*, Vol. XLII, p. 846) under the name of "Creabin." It is said to be obtained by precipitating with diluted hydrochloric acid a mixture of 10 parts of a 10-per-cent. solution of dried albumin with 1 part of creolin mixed with 10 parts of water. The precipitate is dried on a water-bath, powdered, and subjected to further heat in a drying-closet at a temperature of from 115° to 120° C. for three hours. One hundred parts of albumin yield about 100 parts of crealbin.

The new preparation is intended for internal administration, but reports regarding its use are still wanting. F.

Strychnia in the Treatment of Pneumonia

Percy Kidd (*Arch. de Gine., Obs., y Ped.*, No. 1, 1897) believes that disordered heart-functions in pneumonia are due to exhaustion of the nerve-centers, produced in this instance by the pernicious influence of the cough over the said centers.

The value of the strychnia in such cases is evidently due to its action upon the excitomotor nervous apparatus of the heart, and upon the respiratory center. This theory is based upon the fact that strychnia has produced happy results in a great many cases where various other remedies (alcohol, ether, etc.) had been employed without any benefit—the remedies exerting their action directly upon the cardiac muscular fibers and arteries.

The author prefers hypodermatic or in-

tramuscular injections rather than administration per os. The intramuscular injection should be made in the gluteal muscles in doses from 1 to 1½ milligrammes. If the pulse is weak and frequent, strychnia should be administered. Diminished respiratory movement is another indication which calls for the use of strychnia.

The beneficial action of strychnia becomes manifest from ten to fifteen minutes after the injection is made. The tension and amplitude of the pulse increase and the respiratory movements become stronger and more regular.

If the result is not durable the injections may be repeated every two hours without any inconvenience. In general, it is necessary to persevere in their use from twelve to twenty-four hours, in order to avoid any danger of cardiac paralysis, and suspend their use as soon as the condition of the pulse has improved.

Kidd has also used strychnia injections for calming delirium, and says that it frequently acts much better than the remedies in vogue in the treatment of this symptom. In this case its action is probably a reflex one. G.

Atropine—Its Use in Eye-disease

As indications for the use of atropine, Dr. E. D. Capps, *Southern Med. and Surg. Jour.* (Vol. IV, No. 1, 1897), places iritis as first in order. Here the drug is capable of doing the greatest good, and its early use in the disease may prevent permanent impairment of sight of the eye, or even the loss, by breaking up or avoiding the formation of posterior adhesions which would otherwise result in secondary destruction of the eyesight. In ulcerations of the cornea, also in keratitis, atropine is used more or less empirically, and accomplishes much good. This is, perhaps, due to its effect on the iris, which is in these cases mostly more or less involved. Atropine is contraindicated above all things in a glaucomatous eye, or in one that has that tendency. Its use would prove fatal to the eye. To understand this correctly, it is necessary for a moment to consider the physiology of the eye. The ciliary body secretes the aqueous humor which pours into the anterior chamber. At the periphery of this chamber is a network of loose tissues known as Fontana's spaces, into which the fluid pours first, thence into Schlemm's canal, and thence into the veins. Through the integrity and patulousness of these canals, the intraocular pressure is regulated, and if atropine is instilled, the pupil is caused to dilate and the flabby iris is thrown back against and partially closes Fontana's spaces,

thus interfering with the ocular circulation. Now one of the first symptoms of glaucoma is an increased intra-ocular pressure, and if atropine is used in such an eye, it only makes it much worse, by doing just the opposite to what should be done, namely, increasing the intra-ocular pressure instead of diminishing it, for it is the increase in the intra-ocular pressure that destroys the eye.

Atropine should never be used in persons over 40 years of age, except in iritis, without a very careful examination by an experienced physician, for the reason that after this age there is more or less hardening of the tunics of the eye, and there may be a tendency to glaucoma, which should be set up if the drug is used.

Atropine should not be used in conjunctivitis, for it will aggravate rather than relieve the disease, and frequently when put in a healthy eye for the purpose of dilating the pupil and paralyzing the accommodation, will set up a violent conjunctivitis; it should therefore not be used in conjunctival inflammations, unless they are accompanied by ulcers of the cornea.

It should be used with great care under any circumstances in children under the age of 2 or 3 years. Even small quantities of a weak solution instilled into the eyes of infants have been known to set up dangerous symptoms of poisoning. If found necessary to use it in the eyes of infants, it is best to employ 1-4 or 1-3 per cent. and drop one drop in one eye at a time, later putting it in the other. S.

Bismuth Oxyiodopyrogallate

By the prolonged digestion of molecular quantities of bismuth oxyiodide and pyrogallol, or by the precipitation of a solution of iodides and pyrogallol by means of a solution of bismuth nitrate in acetic acid, a new compound is formed, bismuth oxyiodopyrogallate. This new bismuth preparation is described (*Pharm. Ztg.*, Vol. XLII, p. 787) as a fine, amorphous, yellowish-red powder, insoluble in water and the usual solvents, and permanent in air and light. It is recommended as a powerful surgical antiseptic, not so readily decomposed by water as the other bismuth-preparations heretofore in use as wound-cicatrizzants. F.

Pellotin as an Hypnotic

Heffter, in the *Fortschritte der Medicin*, describes in detail the action of a new alkaloid, pellotin, obtained from a species of cactus, *Anhalonium Williamsii*, closely related to that from which the mescal button is derived. He made a series of forty experiments with doses ranging from 2-5 ctg. (1-5

to 5-6 grn.), given by hypodermic or by mouth. Within a short time distinct somnolence was produced by 2-3 grn., and in some instances a marked analgesia was produced, but no hypnotic effects. No general anesthesia comparable to the action of opium was obtainable. In a number of cases a retardation of the pulse was noticed after the taking of the drug. J.

For Chapped Hands

Alcohol	80 gme.
Glycerin.....	35 gme.
Rosewater.....	30 gme.
Salol.....	2 gme.
Tr. of Musk.....	2 drops

M. Ft. Lotio. Sig.—Apply it with friction and allow it to dry on the hands.

—*Gaz. méd. de Liège.* S.

Oil of Wintergreen as a Liniment in Rheumatism

Siredy, of Brussels (*Indiana Med. Jour.*, Feb., 1898), after much experiment, regards salicylate of sodium by the stomach as the best treatment for acute polyarticular rheumatism, if it does not disturb digestion. But in chronic and sub-acute cases, particularly in the points of the extremities, he prefers the local use of methyl salicylate. Its action is more persistent and efficacious. In gouty joints it lessens swelling and pain. The drug is a volatile, mobile liquid of a penetrating, but not disagreeable odor. One or two drachms is applied to each joint, and a half-ounce may be used without systematic effects, as it is slowly absorbed by the skin and not much is in the blood at once. It is applied to the joint, which is covered with gutta-percha sheeting, and then bandaged. Redness is produced, but no irritation nor eczema. Bochefontaine first used it in this way in 1879. The methyl salt has 90 per cent. of salicylic acid; the sodium salt 80 per cent. Oil of wintergreen or oil of gaultheria is the same as salicylate of methyl. G.

The Treatment of Blenorrhagic Urethritis

Dr. A. Chaix, in an inaugural thesis, describes a method of treating blenorrhagic urethritis in the female, for which he claims many advantages. The method consists in the introduction into the urethra of a metallic probe, to whose tip a pledget of cotton dipped into an ichthyol-glycerin solution (1:5) is fastened. After the entire urethra has been thus swabbed the vagina is tamponed with the same solution. Not the slightest pain, it is claimed, has ever accompanied the application of the remedy. When the blenorrhagia is of an acute form

with sharp pains and very marked inflammatory phenomena, and at the same time accompanied by infection of the uterus and undoubted evidences of salpingitis, ichthyol, through its analgesic and resolvent properties, was found to exert a very marked influence on the disappearance of these symptoms. It was found to replace or advantageously further the action of other analgesics or emollients usually employed in such cases.

The writer states that ichthyol is not in the least degree irritant, and that it is credited by the majority of investigators with being a resolvent. Its non-causticity, even in concentrated solutions, is also an advantage it possesses over other topical applications, since undiluted it may be brought into direct contact with affected parts, and by reason of its antiseptic power, with greater chances of effectiveness. The epithelial necroses that so frequently follow the employment of caustics are never observed to follow the employment of ichthyol. The remedy also appears to be valuable in suppressing gonococci because, after its application, the secretions of the mucous membranes contain a great number of epithelial cells, a desquamation that largely favors their suppression, and the remedy, besides, acts as a very vigorous bactericide. Even solutions of from 1 to 10 per cent. exert a marked action on gonococci. Hence, as urethritis and vaginitis are frequently associated, an ichthyol tampon placed in the vagina attacks the numerous micro-organisms that develop there. Applied to the neck of the uterus it prevents the spread of the infection to the superior genital organs. Should the uterus be already affected the remedy prevents the advent of any new germs, and favors the destruction of those already present. The mixture of ichthyol with glycerin was found to be best, as being more adhesive, constantly retaining the vaginal mucosa in a moist condition, and exerting a continuous antiseptic action thereby.

Guaiacol in the Treatment of Gonorrheal Epididymitis

Dr. B. Goldberg reports seven cases of gonorrheal epididymitis (*Deut. med. Woch.*, No. 32, 1897) which he treated with guaiacol, with splendid success. The patients were not detained from their occupation, nor was there any pain or elevation of temperature. During the first three days the author painted the scrotum with pure guaiacol, or with guaiacol-glycerin, equal parts (only one or two applications during that time); after that he employed a salve of guaiacol (guaiacol $2\frac{1}{2}$ dr., lanolin $\frac{1}{2}$ oz.)

daily, in such quantities, that about from fifteen to thirty drops of guaiacol were used up during the day. After this salve was all gone, an ichthyol ointment was employed. The slight irritation of the scrotum disappears by itself, or after application of an absorbent powder or zinc salve. The patient must be watched during the treatment, as symptoms of poisoning may appear. In one case where the guaiacol ointment was applied too abundantly, the author observed dizziness, perspiration, flashes of heat, and anorexia; in another case there appeared green urine. R.

Ursal

This is a compound of urea and salicylic acid, introduced for use in the treatment of arthritic and rheumatic affections. It is said (*Pharm. Ztg.*, Vol. XLII, p. 828) to be particularly useful where, besides the specific action of salicylic acid, a diuretic effect is desired, and to be free from unpleasant by-effects. The dose is the same as that of sodium salicylate. F.

Catarrh of Upper Air-passages

In catarrh of the upper air-passages the following is very effective:

Menthol.....	4.0
Eucalyptol.....	2.5
Turpinol.....	2.0
Essence of Pine.....	1.0

M. Sig.—Pour a few drops of it into a bottle, warm it over an alcohol flame, and inhale the vapors through a tube.

—Dr. Kafemann, *Sem. méd.* S.

Pellotin and Its Action

In the *Centralblatt f. Nervenheilkunde*, Aug. 1, 1897, Langstein records his experiences with pellotin. He has had some unpleasant symptoms following its use in doses of 1 ctg. (1-6 grn.) hypodermatically. These were cyanosis, weak, thready pulse, cold extremities, with clammy skin and intense collapse, which required energetic stimulation to overcome.

The author believes it wise to begin with very small doses and gradually work up, especially in the non-experimental stage. J.

Croton

Just as in jequirity- and castor-seeds, poisonous albuminoids are contained in croton-seeds, and have been designated by the collective name "Croton" (E. Merck's 1898 *Bericht*). The substance occurs as a whitish powder, yielding about 21 per cent. of ash, and soluble in water and in 10-per-cent. sodium-chloride solution. It is a protoplasm poison, and attacks the stromata

of the blood-corpuscles of certain animals. It acts differently on the blood-corpuscles of different animals, does not make defibrinated blood venous, paralyzes certain parts of the central nervous system (brain), and in large doses affects the heart, and perhaps also the heart-muscles. Its action is most probably that of a ferment, at least the agglutination it causes of the stromata of the blood-corpuscles of certain animals may depend on its power to bring about the coagulation of the albuminoids present in the stromata. F.

Cinchonidine Chlorocarbonic-acid Ester

A new compound has been obtained from cinchonidine by the action of phosphene gas, which resembles equinine (quinine chlorocarbonic-acid ester), obtained in the same manner from quinine, and described on page 215, Vol. XI, of the BULLETIN.

It occurs in the form of colorless, tasteless needles, melting at 191° C. It has a neutral reaction, and is soluble in acids. Its solution in sulphuric acid exhibits no fluorescence, nor gives the thalleioquin reaction. F.

Chyluria Treated with Ichthyol

Dr. Moncorvo, of Rio de Janeiro, reports (*Nouv. Rem.*, XIII, p. 719) having used ichthyol in two cases of chyluria, in which the cures were rapid. He believes, hence, that in the treatment of this stubborn disease, which heretofore resisted almost every therapeutic treatment, and which ordinarily yields only to a change of climate, ichthyol is an extremely valuable agent, and recommends it highly in such cases. F.

Orthoform in Tuberculous Laryngitis and Certain Forms of Buccal Ulceration

Dr. H. Neumayer states (*Sem. méd.*, XVII, p. 230) that he has successfully utilized the analgesic power possessed by orthoform in the pains of tuberculous affections of the larynx, which are so intense during deglutition. In these cases an intralaryngeal insufflation of 0.2 gme. (3 grn.) of orthoform or its hydrochlorate brings about an anesthesia that may last, according to circumstances, from three to forty hours. The insufflation may be repeated as often as required without the slightest inconvenience, the remedy being not in the least toxic.

According to the writer, insufflations, or applications of a 100-per-cent. solution of the hydrochlorate are equally effective in lessening the pains of lingual cancer, ulcero-

membranous stomatitis, and ulcerations of the buccal mucosa caused by the friction of dental angularities. He believes the remedy to be very valuable, besides, in painful lesions of the upper air-passages, and that it may advantageously replace cocaine for producing prolonged anesthesia of the ulcerated mucosa. Either the base or its hydrochlorate may be employed, but where the remedy is to be left in contact for an extended period, the base is to be preferred, since the hydrochlorate, having an acid reaction, is not entirely free from irritating effect.

Olive-oil in Hepatic Colic

In an interesting paper on the treatment of hepatic colic, Dr. Barth states (*Med. Week*, V, p. 589) that he has used large doses of olive-oil in this affection with remarkable success, and cites several cases in support of his views. The oil was given in doses of from 150 to 200 gme. (5 to 7 fl. oz.), anisated in order to render it agreeable and insure its retention.

The writer found that in cases of biliary lithiasis of recent date, with distinct hepatic colic and jaundice by retention of bile, without any complications of angiocholitic or infective nature, the administration of large doses of olive-oil will, almost to a certainty, lead to immediate suppression of the pain, rapid expulsion of the calculi, and disappearance of the jaundice and other phenomena consecutive to the arrest of the flow of bile. When repeated at intervals, and combined with hygienic measures and an appropriate diet, it seems to be able to prevent recurrence of the accidents, stimulating the secretion of bile and rendering it more liquid, thus preventing all stagnation and carrying away the gravel gradually as it forms.

When the lithiasis is complicated with adherent cholecystitis, arising from continuous irritation of the neck of the gall-bladder, the oil is still capable, by reflex action, of moderating, or even arresting, the attacks of pain; it is devoid of all influence, however, on the calculi contained in the gall-bladder itself, and unable in particular to prevent inflammation, dilatation, or ulceration of the bladder. The question may indeed be raised, whether the cholagogue action of the oil is not apt to prove rather injurious than otherwise in such cases.

Lastly, the oil treatment is altogether contraindicated when the calculus affection is of old standing and has already led to chronic dilatation and absolute atony or the biliary ducts, when there already exist symptoms of ascending hepatic infection, as shown by the presence of fever, of a quick pulse in

spite of the jaundice, by the occurrence of various hemorrhagic accidents, of nervous or other serious general phenomena. The oil, in cases of this kind, is still able to check the pain and to restore the flow of bile, but it remains without any action on the primary trouble itself and may possibly contribute toward hastening a fatal issue, through the additional work it gives to the liver, and through the digestive disturbance set up in an already weakened organism.

F.

A New Mydriatic—Euphthalmine

This new mydriatic, derived from amygdalic acid (*Therapeut. Woch.*, Vol. IV, p. 688), is said to bear the same relationship to eucaine that homatropine does to tropacocaine.

Two to three drops of a 2-per-cent. solution is followed in from twenty to thirty minutes by a marked mydriasis, which disappears completely in from two to three hours.

Its use is not accompanied by any pain, nor were any unpleasant after-effects noted. Its action upon accommodation is less marked than that of homatropine.

Maximum mydriasis may be obtained by a 5- or 10-per-cent. solution.

Its action is slower in adults than in children.

J.

Tribromsalol

A tribromsalol having a melting-point of 105° C., and differing from the one heretofore known in its ability to take up acid and alcohol radicles, may be obtained, according to Dr. Joseph Rosenberg (*Pharm. Centralk.*, XXXVIII, p. 831), simply by the action of bromine in excess on salol, and without the intervention of a bromine-carrier. The new compound is difficultly soluble even in boiling alcohol and ether, more easily in glacial acetic acid and in acetone, and most readily in chloroform. It is intended for therapeutic purposes, as it promotes sleep, reduces the pulse-rate, allays nausea and vomiting, controls cramps, is useful in rheumatism, etc.

F.

Washing out the mouth with a 10-per-cent. solution of chloral hydrate often relieves painful dentition in infants.—*Presse méd.*, Oct. 20.

S.

Pitting in variola is prevented by the following salve:

Ichthyol 20 gme.
Almond-oil..... 60 gme.
Lanolin 20 gme.

Sig.—Apply externally three times a day until falling of the scabs.

—*Méd. de Liège.*

S.

REVIEWS

Report of the Commissioner of Education for the Year 1895-96. Volumes 1 and 2, containing parts I and II. Washington: Government Printing Office. 1897.

These volumes probably constitute the most complete record of all matters pertaining to education of every kind and in every country that is at present attainable from any source. To any one interested in educational progress, wanting statistics of schools, colleges, universities, and libraries, will find them here. There is not a great deal that can be deemed of direct interest to medical men so far as their profession is concerned other than in its college aspects, but they are, nevertheless, very handy volumes to have when one wishes to know just how a given institute is likely to meet our requirements in educating our children, or those of our patients who may consult us on such a subject. The Commissioners of Education have certainly done a large amount of useful work in getting so much valuable material together in so acceptable a form.

A Modern Pathological and Therapeutical Study of Rheumatism, Gout, Rheumatoid Arthritis, and Allied Affections. By Edmund L. Gros, M. D., of the faculty of Paris. (Translated from the French.) Morrison Print, New York, 1897.

For a small work of only 48 pages an unusually large amount of interesting and valuable knowledge has been crowded into this volume. It begins with a brief history of rheumatism and gout, discusses the differentiation of gout from acute articular rheumatism, gives the most recent discoveries in the study of these affections and points out the source of the uric acid that causes the mischief, after which he proceeds to giving the various lines of treatment that have been pursued at various times in these affections. His preference is for the use of a combination of pure colchicine and pure methyl salicylate. The last seven or eight pages are given over to practical prescriptions for the treatment of gouty and rheumatic affections. Being written in France where all proprietary preparations are under the care and supervision of the government, it is not at all surprising to find him recommending a special combination of salicine and methyl salicylate (colchisal) to his readers.

The Peacemaker of Bourbon. A Tale of the New South. By S. J. Bumstead. New York: G. W. Dillingham, Publisher. Dillingham's Metropolitan Library. No. 14. Price 50 cents.

The author of this interesting novel is a practicing physician of Decatur, Ill. From the tone of its contents, we take him to be a strong Republican. It is a story of the Southern States about the time of the Cleveland-Blaine campaign, and some of its most interesting features are clustered around the election of that time. The plot is woven in a highly interesting manner, the lessons inculcated are admirable in every way, and the evils it seeks to combat need to be brought to the attention of the world in some such forcible manner. We fear, however, the doctor has unconsciously and in the height of his zeal rather overdrawn the picture as regards their extent, and thus aroused unnecessary animosity in the minds of the very people it is designed to benefit. In modern times it is the custom to use an anesthetic when a surgical operation has to be performed,

and to give bitter remedies in an elixir or with a coating of sugar. Dr. Bumstead has offered his Southern friends his Northern medicine straight, and as a consequence we doubt its being taken by as many as it should. To fight against prejudice is at all times a thankless task, and when it is the ingrained product of generations of training about hopeless. That there are places in the South where such scenes are enacted as those so well depicted in "The Peacemaker of Bourbon" cannot be denied. Tangipahoa Parish, in Louisiana, is a shining example. There Dr. Joel Goss might almost be looked upon as the original of Dr. Hypo of this tale, and Mr. Samuel Hyde as its Mr. Sinclair. Fifty murders have taken place there within a few years, and the verdict of "person or persons to the jury unknown" always been the coroner's results. The "foremost citizens" are in the fray, and the pistol is constantly in evidence. This, however, is far—very far—from being a typical condition of affairs in the South, and in some remote sections of the mountains of New York and Pennsylvania feuds of a somewhat similar type are not unknown. While this tale does not assert that Bourbon represents the whole South, it has the fault of not distinctly disavowing such an implication as it should. Dr. Bumstead is a good writer of fiction, his style being clear, forcible, and incisive, but his own convictions in religion, politics, ethics, and esthetics are so strong that he is likely to irritate and offend many readers who, by a more tactful course, would be highly pleased. Its ending is good, and would, no doubt, be satisfactory to every section; but how many of the irritable ones will read it through so as to take in the whole intent of the author?

The Practice of Surgery. A Treatise on Surgery for the use of Practitioners and Students; by Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania, and by B. Farquhar Curtis, M. D., Professor in the New York Post-Graduate Medical School. Published by J. B. Lippincott Co., Philadelphia.

Under the above title the medical profession has been given access to a work on surgery which is characterized by being "eminently practical," this being in a large part due to the systemic and what we might call, topical arrangement. In our opinion the book is better adapted for the use of the practitioner, than for the beginning student, and this for the following reasons: first and chiefly; the pathological and more scientific sections have apparently been sacrificed to those on symptomatology, treatment, and other practical matters. This is most marked in the chapters on inflammation, septicemia, infection, and similar subjects, as in these a lack of even essential details and of that clearness and comprehensiveness which characterizes the greater part of the work, makes us feel that the authors must have thought these chapters of secondary importance. Further, the system of beginning the descriptions of the various complications and different forms of treatment with separate headings printed in large black type, enables the busy practitioner to discover at a glance that which would otherwise only be found after more or less loss of time. Characteristic of the whole book is a lack of useless discussion about the value of different methods and ideas, the authors giving only those which in their opinions are suitable and correct. Occasionally however, there is a tendency to err on the side of brevity, the lack of whys and wherefores making it difficult for the beginner to comprehend the causation of some symptom or the usefulness of a certain treatment. The value of the work is due in a large part to the completeness of range, covering as it

does in a most commendable though of necessity in a concise and somewhat abbreviated manner, the whole of surgery with all its branches. Before a second edition is published, a careful revision of the English might be of service as we have noticed sentences which are, to say the least, difficult to understand. The following might be quoted as an example, on bottom of page 33. "Some of the septic toxins act similar to strichnine or atropine, and it is possible that one of these drugs may be useful to counteract effects similar to those produced by the other, and either of them, in all doses, is a good heart stimulant." What hail!

The book is most profusely illustrated with, in the majority of cases, original drawings and photographic reproductions, which by their demonstrations help the reader greatly to understand facts and theories which pages of text would fail to make clear. Taking it as a whole, we believe the work will by its completeness, conciseness, its modern teachings and general usefulness make a place for itself in the surgical literature of the world and will not fail to be appreciated by the medical profession.

Traumatic Injuries of the Brain and Its Membranes. By Charles Phelps, M. D., Surgeon to Bellevue and St. Vincent's Hospitals. With forty-nine illustrations. D. Appleton & Co., New York. Price, Cloth, \$5.

This, the first careful compilation of cases of this nature to be published, fills a previously vacant place in the literature of nervous diseases. In view of the deficiency of clinical material upon which the general practitioner must build his experience, and of the fact that any physician is liable to be called upon to give his opinion concerning cases of brain-injury both in a medical and medico-legal way, Dr. Phelps' work is an essential part of a medical library. Dr. Phelps has given in a clear and concise manner statements of facts found during observation of cases of brain-injury, a number of which were verified at autopsy. Not the least interesting and valuable part of the work is that referring to the medico-legal relations of pistol-shot wounds of the head. The author and others made a series of experiments upon the cadaver, the results of which are given, together with photographic illustrations. These experiments included the calibre of the missile employed, the length of the weapon, the range of firing, etc. The author reports the effects of these shots, including the outward appearance of the wound. The press-work of the book itself is excellent.

Surgeon-General Wyman says that 45,000 deaths occur on an average every year from typhoid fever in the United States.

A leading hotel-keeper in Denver offers to give medical men reduced rates while there, attending the meetings of the American Medical Association, providing they are willing to occupy his rooms in pairs.

A committee of the State Board of Health of Michigan has formulated a plan for the execution of the rules of the General Baggage Association of the United States relative to the transportation of dead bodies. It provides for the examination of embalmers in anatomy, embalming, bacteriology, the modes of spreading of contagious diseases and measures for restricting dangerous communicable diseases. A certificate of qualification from the Board is to cost \$10, and they are to pay \$1 per year besides, to defray the expenses of the commission. No one except those who have passed this examination shall have the right to embalm a body for transportation.

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EDITOR'S NOTES

The editor of the *Philadelphia Medical Journal* is complaining of the scant courtesy he is receiving at the hands of some of his contemporaries in that they copy from him without giving due credit. We have been receiving the same kind of treatment month after month without cessation. Even our editorials have been appropriated, a few lines changed at the end to give a local tone, and then passed off as the original product of the editor of the filching journal. This is no doubt the sincerest kind of flattery, but the method of bestowing it is far from being just or honorable.

The Paris correspondent of the *British Medical Journal* shows that the scientific men of France have not been attacked with the national disease of "Zola-mania." Prof. Grimaux, who was honest enough to tell what he knew in the Zola trial, was deprived of his chair at the Ecole Polytechnique as a punishment. He lately attended a meeting of the Biological Society, and when he entered all rose as a mark of honor to him. Prof. Richet then said: "It is the custom at the Biological Society to congratulate its members when an honor is conferred upon them, or when a memorable event occurs in their career. To-day we offer the homage of our affection to M. Grimaux, our master, our friend, and our colleague. He has been

severely treated. It is not for us to criticize this act, but we desire to express to him the admiration, the respect, the sympathy, which animate the hearts of us all." Intelligent Americans have been astonished at the wave of emotional insanity that appears to have taken possession of the French, not only in that they refuse to do a simple act of justice to the innocent, but also at their attitude toward the unbiased beliefs of the people of other nations. They claim that we disagree with them in their opinions because we hate them.

A subscriber of the BULLETIN in West-erly, R. I., Dr. Morgan, writes us a very commendatory letter in which he disagrees with our Maine correspondent, whose letter appeared in the Dec. 10 BULLETIN, and who objected to our use of the metric system. Dr. Mason has used the metric system for twenty years and now prefers it to the old. He suggests that we arrange the metric quantities in columns, as dollars and cents are written, by putting the grams in front of a perpendicular line and the fractions thereof after the line. We should be pleased to do so if it was equally convenient for the printer and if it was possible on all occasions to place them thus. As we are now giving the quantities in both the old and new systems so as to meet the requirements of both classes of our readers this would also make it more difficult for us to follow consistently our correspondent's suggestion.

A Brooklyn correspondent wishes us to state what we think should be used in filling the bottles usually found in the regulation obstetric bag. There are a number of things that every obstetrician should carry constantly in his bag for use in emergencies. These are ergot, chloroform, laudanum, aromatic spirits of ammonia, tincture of veratrum viride, glycerin, carbolic acid, and fluid extract of hydrastis. Solutions for hypodermic injections are not apt to keep well, and medicines for such use are best prepared, as required, from tablets. Cocaine-solutions are likewise best prepared as needed. A strong solution of antipyrine is sometimes useful as a hemostatic, or to give by the mouth to lessen unnecessary pain. Perhaps some of our readers can suggest something else.

A daily rectal injection of antipyrin, 5 gme. to water 250 gme., is highly recommended in dysentery.—*Sem. méd.* S.

Wax plugs in the ear are rapidly softened by a small quantity of oxygenated water.—*Sem. méd.* S.

PUBLISHERS' DEPARTMENT

THE CHUTMUCK SPECIAL

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Ass't Gen'l Passenger and Ticket Agent.

PAIN IN OTITIS

Dr. Geo. H. Powers, Professor of Ophthalmology and Otolaryngology in the University of California, San Francisco, in an article in *Medical News*, writes as follows, in reference to the treatment of pain in otitis: "At my first visit I found a copious discharge of bloody serum from the ear with hardly a trace of pus. He suffered from severe cephalalgia, but there was no special tenderness in or about the ear, and no swelling. Thorough cleansing of the meatus with dry cotton relieved the pain in the head remarkably, and with a dose of antikamnia, 10 grains, he slept some hours."

DIPHTHERIA AND DIPHTHERITIC SORE THROAT

"I find Campho-Phénique remarkably effective in diphtheria and diphtheritic sore throat, used as a spray."—Dr. L. A. Roth, Springs Forge, Pa.

"Campho-Phénique, well diluted, and used as a spray, has great energy and effect in diphtheritic sore throat."—F. H. Lutterbeck, Anthony, N. M.

"I have met with such excellent results with it in the treatment of diphtheria that I would not undertake a case without it. My formula is Campho-Phénique, two parts; water, two parts; mistura acaciae, four parts. Suspend Campho-Phénique in the mixture, and apply with a probang."—Dr. John E. Pritchard, No. 1010 Chesapeake St., Baltimore, Md.

THE TILDEN COMPANY

This marks the fiftieth year of The Tilden Company, Manufacturing Pharmacists and Chemists, New Lebanon, N. Y. They are among the oldest, and one of the very best in their line. Many of the older physicians remember when only Tilden's Fluid Extracts were to be had. They are erect-

ing a very handsome new laboratory at New Lebanon, near the site of the old one, in honor of this anniversary. They have within the last five years established a Western Branch at St. Louis, Mo., for the convenience of Western and Southern trade.

MORTALITY OF DIPHTHERIA AND ANTITOXIN

Prior to the introduction of Anti-Diphtheritic Serum, the mortality from diphtheria at the Harper Hospital, Detroit, averaged for a number of years 40 per cent. According to the 34th annual report of the Hospital authorities, as published in the February number of the *Harper Hospital Bulletin*, page 73, 141 cases were treated at the Hospital during 1897, with the following results:

	CASES.	DEATHS.
Ordinary Diphtheria....	115	1
Laryngeal Diphtheria...	26	6
	141	7
Excluding two cases Moribund on Admission....	2	2
	139	5
Mortality under Antitoxin Treatment.....		3.6 per cent.

The antitoxin employed exclusively in Harper Hospital during 1897 was the Anti-Diphtheritic Serum of Parke, Davis & Co.'s Biological Department, and the remarkable reduction displayed in the death-rate reflects the highest credit on the efficacy of this product.

A GOLDEN ERA

This is the title of an illustrated pamphlet issued by the general passenger department of the Chicago, Milwaukee & St. Paul Railway on mining in Colorado, California, and other Western States.

KLONDYKE

is an illustrated folder about Alaska and its gold-mines, with rates of fare and information as to how to get there and what to expect after arrival. Both publications may be had free of expense by sending four (4) cents in stamps to pay postage to Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

A writer in the *Medical Press* says: "It is computed that there are 26,500,000,000,000 of cells in the adult human body, of which 4,000,000,000,000 are fixed and 22,500,000,000,000 vagrant." The cells of the nervous system are said to number 3,000,000,000.

The Medical Society of the Missouri Valley will meet at Red Oak, Iowa, on March 17. An interesting programme has been prepared on which eighteen papers are listed to be read. Dr. Porterfield, of Atlantic, Iowa, is President and Dr. Macrae of Council Bluffs, Secretary.

The doctors of Harrisburg, Pa., have formed an organization for protection against "beats." Every person owing more than one doctor's bill will be blacklisted, and no member of the organization will answer to a call from any person on the list. The worthy poor will not be interfered with.

The Paris correspondent of the London *Lancet* reports experiments of M. Physalis with pure, crystallized tyrosine from carrots, dahlia tubers and albuminoid animal matter, in which it was shown that this substance, whatever its source, is an efficient article for giving immunity from snake-poisoning.

NEWS

Dr. John P. Maynard, who in 1847 first used collodion for surgical purposes, died lately at Dedham, Mass., aged 82 years.

Dr. Chas. B. Bingham of St. Luke's Hospital, San Francisco, has completely excised the stomach of a female patient aged 65, for the removal of a cancer.

Sir, Richard Quain, Bart., Physician Extraordinary to Queen Victoria, President of the General Medical Council, and editor of the "Dictionary of Medicine," died March 13th.

There will be held in New York City, between April 25 and May 31, 1898, an International Health Exposition at the Grand Central Palace, Lexington avenue. Mr. Charles Wingate is the director.

The March number of the *Louisville Medical Monthly* contains a scathing rebuke for the medical politician, who seeks through his pull and not his worth, to gain honorable positions in leading medical organizations.

The 1896 report of the New York Board of Health shows that the fifty members of the summer corps of physicians received \$200 each for making an average of 5,495 calls per physician, or about four cents per visit.

Army officials are dreading war with Spain unless it occurs quickly, because of the danger from yellow fever and smallpox during the rainy season. Over 100,000 Spanish soldiers have died in Cuba from disease during the past three years.

There will be a joint-meeting of regulars, homeopaths and eclectics in Topeka, Kan., next May. The Governor of the State will make an address of welcome, and Dr. Ochiltree, of Hadam, Kan., will make the response in behalf of the convention.

The American Medical Association bill for the establishment of a National Department of Public Health, has been placed before Congress for consideration. The American Public Health Association also favors this bill, and will do all it can to aid in making it a law.

The antivivisectionists of Massachusetts, among other methods of propagating their faith in that State are publishing in the daily papers columns of garbled extracts from speeches and letters of medical men seeming to prove that they held vivisection to be worse than useless.

San Francisco doctors appear to be striving to outdo each other in trying to discover new tubercular serums and other means of curing tuberculosis. The latest claimant for honor in the field is Dr. Daywalt, who says that boric acid is a sure cure when injected hypodermically.

A bill was lately presented to the Maryland Legislature providing that medical graduates of reputable colleges of that State be registered on paying a fee of \$20 for the certification of their diplomas, and \$1 for registration. Graduates from other States will have to be examined as usual.

The American Academy of medicine has sent out a list of seventeen interesting papers promised for their Denver meeting on June 4 and 6, 1898. Three sessions will be held on Saturday and one on Monday, thus finishing their work in time to be ready for the American Medical Association.

Theological experts in estimating the value of

the work of a clergyman in making converts got into a tangle lately in a Kansas city court. The preachers disagreed as badly as doctors are charged with doing, some claiming that the service was only worth \$25 per week, while others fixed it at \$75.

After fifteen years' service in its old home the New York Skin and Cancer Hospital entered new, commodious, and scientifically equipped quarters at 19th street and Second avenue on March 5. The president of the hospital gave a history of its work, and addresses were made by Drs. A. Jacobi and L. Duncan Bulkley.

The appropriations of the City of New York to the Society for the Relief of the Ruptured and Crippled for the years 1897 and 1898, have been withheld because the Commissioners of Accounts report that during six previous years their institution had overcharged the city \$40,000. The hospital authorities deny the charge.

A Pure Food and Drug Congress met in Washington, D. C., March 2 to 5 to discuss a bill now before Congress, the object of which is to put a stop to the adulteration of foods and medicines. Delegates were present from nearly every State in the Union, representing the various industries interested in the law. Only a few medical societies sent delegates.

Dr. Edwin Klebs, now of the Post-Graduate Medical School of Chicago, formerly of the University of Zurich, Switzerland, and the joint-discoverer with Dr. Loeffler of the bacillus of diphtheria, has lately examined the stomachs, duodenums and livers of two patients that died of yellow fever in Mobile. He sought for Sanarelli's Bacillus icteroides but could find no trace of it. Instead, however, he found what he thinks is a virulent, pathogenic ameba that he suspects has something to do with the production of the disease. He is waiting for a fresh supply of material on which to work before making a distinct claim of results.

The physicians of Berkeley, California, have been making things interesting for the Professor of Physical Culture in the University, W. E. Magee. They claim that he has been treating students for various ailments without complying with the State medical law. The professor denies the charge, but acknowledges that in his duties as director, when a student sprains an ankle or cuts a finger in the gymnasium, or when playing football, he bandages and bathes the injury with hot water or a liniment until a physician can be consulted if the student desires to do so. He declares that he never receives any fees, never prescribes, never makes calls, and only aids as he can in emergencies as any humane person should.

The Insane Asylum at Fulton, Mo., is again in evidence. The new homeopathic superintendent, a young relative of Governor Stevens was appointed about eleven months ago to succeed a regular whom the governor deposed solely to make a place for his kinsman. Now there is trouble because of alleged misconduct of the new superintendent with some young female patients of the institution. Two Fulton ladies, prominent in church circles there, testify that they saw the new doctor going where he should not at unseemly hours. The Board of Managers which is now composed mostly of homeopaths, accepted the doctor's involuntary resignation. Governor Stevens came to the rescue, tried the case before a commission headed by himself, whitewashed the doctor, besmirched the lady assailants, and now some of the best people of Fulton are wroth at the governor, who will restore his kinsman to the office again. The Board of Managers is likely to be tried for lese-majesty and deposed.

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EDITORIAL

HYPODERMOCLYSIS

BOTH American and foreign journals have recently had in them numerous articles praising the value of hypodermoclysis in uremic and various other conditions. Almost invariably the statements are of roseate hue, but in this the general law of therapeutic literature is only followed out. A very curious article might be written by any one who was willing to give the necessary hours of literary research, upon the disused therapeutic measures and drugs, which have been abandoned by the profession, in spite of the continuous publication of good results, but slightly contradicted by a few counter-statements. A doctor who has a case saved by hypodermoclysis, as he believes, immediately puts it into print, whilst his fellow practitioner who has used hypodermoclysis without result, does not think it worth while to report his failure. Even when a therapeutic procedure is of no value, the evidence of its clinical success in medical journals usually overrules the negative evidences of its want of success, because of the tendency of human nature to parade success and hide failure.

In all the reports that we have read, lauding the excellent results of hypodermoclysis in uremia, this measure has been aided by the usual treatment of the condition, mak-

ing it very uncertain how far it has contributed to the result. We have employed it several times in acute suppression and in uremia from chronic kidney-disease, and have never been able to see that it had any direct influence. It is plain what it does—It fills up the blood-vessels, gives the stimulus of an excessively watery blood to the glandular organs, and when it is excreted helps to wash out peccant materials from the system. If in any individual case the blood-vessels be empty, hypodermoclysis may do much good; if the blood-vessels be already overfull of excessively watery blood, as is often the case in renal disease, the measure can avail very little. What is the use of injecting more water into the cellular tissue of a patient who is already hydremic, and whose cellular tissue is edematous, because the function of the kidney has long been arrested?

Hypodermoclysis is not to be condemned *in toto* as a therapeutic measure, but should only be used with judgment and a clear idea what it can accomplish. One of the most brilliant therapeutic cases that has ever come to our personal cognizance was in a woman who had vomited and purged for some days, for unknown reason, who had not slept for many hours, who rejected and was made worse by all ordinary medicines; but in whom the filling up of the cellular tissue of one buttock with saline solution produced in twenty minutes a quiet sleep, which proved to be the beginning of a convales-

cence. This life was apparently saved by the procedure. To fill up blood-vessels which have been emptied; occasionally to wash out effete materials from the blood, such is the whole measure of usefulness of the large injection of saline solution into the cellular tissue.

In the introduction of a new therapeutic measure there is usually a tendency to make the procedure mysterious, and thereby augment its importance; and so we see in some of our contemporaries elaborate directions in regard to the preparation of the solution. It really makes no difference whether there is a little more or a little less salt in the water. For all practical purposes, all that is necessary to do is to add a level teaspoonful of ordinary kitchen salt to a pint of clear water and boil this solution five minutes, by the end of which time all germs and their spores will have been killed. The best place of injection is the buttock, and a large hypodermic needle or small cannula (of course, thoroughly sterilized), should be pushed deep into the tissue, and the solution driven in, not forcibly with a Davidson's or small syringe, but slowly and quietly, by a pressure produced by a fountain-syringe or similar apparatus. Of course, absolute surgical cleanliness of everything used must be rigidly enforced. In some cases a large intestinal injection is useful as an aid to the hypodermic injection of the fluid, but usually absorption from the large intestine is so slow and imperfect that enteroclysis is of little avail. Intravenous injection of a normal salt solution may, in rare cases, as when immediate dissolution is threatened from the results of sudden hemorrhage, be practiced; but in a very large direct and indirect experience extending over many thousands of medical cases, we have never had personal cognizance of a case which seemed to call for it. When the veins are empty and collapsed, the doing of an in-

travenous injection requires considerable skill, unless so large a vein is selected that the after-results are almost like those of a surgical operation. Moreover, the loss of time during the operation is apt to be a very sensible part of the time required for absorption after hypodermoclysis.

Properly performed, hypodermoclysis seems to be always perfectly safe, except in those cases in which through disease of the spinal cord or other nerve-centers, there is an abnormal tendency of the tissue of the buttocks to slough.

A HARVARD PROFESSOR ON MEDICAL LEGISLATION

THAT the deepest oceans have their shallows, and that the wisest men sometimes do and say very silly things, is generally acknowledged but very seldom fully realized. The medical profession of Massachusetts has just had an experience that has brought it home to their understanding in a way they are not likely to soon forget. As there is pretty sure to be a repetition of such events in other States, much to the annoyance of progressive medical men, the incident becomes one of national importance. In the attempt lately made in the Bay State to improve its medical laws, intense opposition resulted and every available power was used in defense of quackery. One very surprising feature of the affair was the appearance before the committee on public health of the Legislature, as an advocate for the quacks, of no less a person than Dr. William James, Professor of Psychology of Harvard University. The pith of his objection to the passage of the law was "That the Commonwealth of Massachusetts is not a medical body, has no right to a medical opinion, and should not dare to take sides in a medical controversy. In the particular business of mental healing there can be no doubt

that if the proposed law were really enforced it would stamp out and arrest the acquisition of that whole branch of medical experience."

A teacher of psychology should be the last man in the world to do such terrible violence to common sense, that is supposed to be under his personal supervision. The Commonwealth of Massachusetts, though not a medical body, is quite as competent to have an opinion on a matter that means life and death to thousands of its citizens, and that is merely a judgment regarding whether a man is less competent to know how to act when possessing a minute knowledge of the facts on which he is called to act than if he is absurdly and palpably ignorant of everything pertaining thereto. Must a man be a pilot to be permitted to pass judgment upon the question as to whether an educated pilot or an ignorant street arab is the safer to trust the guiding of a shipload of people through a dangerous channel? Such was the issue and the sole issue in the Massachusetts attempt at medical legislation, which was defeated by the interference of men like Prof. James. No one was asked to take sides in a medical controversy, and no one should have known this better than the Professor. The Commonwealth of Massachusetts was not asked to have a medical opinion. It was only asked to have an opinion on the question as to whether knowledge of a thing is of any benefit in dealing with that thing. When he said that the enforcing of the proposed law would stamp out and arrest that whole branch of medical experience known as mental healing it is difficult for us to believe that he meant anything of the kind. Is mental healing only possible in the presence of intense ignorance? Does he mean to assert that the educating of the mental healer would destroy every vestige of his power? Can it only exist in an atmos-

phere of ignorance? If this is so, then of what earthly value is it ever going to be to a civilized community? Not a single one of Professor James' opinions on this question can stand a moment of sober scrutiny at the bar of reason. The frantic cry in Massachusetts made by the quacks is the same cry that has again and again resounded through our whole country, and that is likely to be repeated by them as long as available as a means of deception is that medical men are seeking a monopoly. Let all medical men, hereafter, emphasize the fact that they have no legislative war to wage against mind-cure, ghost-cure, bone-cure, water-cure, diet-cure, electric cure, or any other kind of cure. All that is wanted is that people practicing such cures shall know enough not to permit people to die that can be saved. Medical men only ask that these various curers shall be put on exactly the same footing as themselves. Medical men can be fined and imprisoned for doing the very things that these people ask to be permitted to do by law.

Surely, no sane man believes that Christian Science, by its methods can build bridges, straighten the bent piston-rods of engines, fill up the leaking holes of the turbine-wheels of a mill, check the growth of a field of corn, mend a broken bicycle, or do other such mechanical or biological miracles. We have not heard of any of them trying their hands at work of this kind knowingly. In their crass ignorance they are guilty of precisely such attempts. If they can overcome mechanical laws by the mere action of mind on the body, why cannot they do the same outside the body? Does Professor James for one instant believe that mental curers could restore a dislocated thigh-bone? Does he think that Christian Science could set a broken bone? Does he believe that by any conceivable effort of the mind a child with an imperfor-

ate anus, urethra, or vagina could be made normal? Can mind-cure save patients perishing with intussusception, poison, incarcerated hernia, or other mechanical or chemical power leading directly to death? Would it do any harm for Christian Scientists to be forced to know that there are such maladies, and many of them? As they now are, they do not know a passing calculus from a streak of lightning, and would have their patients try to think that nothing was the matter with them when a large stone was obstructing the urethra in a way that if neglected would be certain death. If they can will away such a stone, why do they not help our railroad men cut their tunnels by mere will-power? Many of the most serious maladies of the race are due to mechanical displacements, obstructions in the narrow tubes of the body, and other mechanical causes that require resort to mechanical principles to cure. Is it not then simply jibbering idiocy to think that there is the remotest possibility of any discovery ever coming from these people in this class of cases? Is it not the part of simple prudence to compel them to know of the existence of such maladies and to see how utterly insane their claims are as applied to them? To practice their mummeries over such patients is murder pure and simple. For legislators to protect them is neither more nor less than to license a form of thuggery. If they are to be permitted to go unchecked what use is there in the existence of medical colleges, medical science, or, in fact, of protective knowledge of any kind? Why not give way to ignorance everywhere?

Surely, no one is so blind to experience as to believe that a little more knowledge demanded of men and women who hold human lives in their hands is going to be harmful to them. Medical men do not ask Christian Scientists to give up Christian

Science, but only ask them to fit themselves for their practice by getting some knowledge that is as sure to keep them from murdering their patients as it is certain that to-morrow's sun will rise. Is there anything unreasonable in this? True, it will cost them some money, time, and effort, but what of that? Medical men had to go through just such an ordeal themselves for precisely the same reason. Are they any better than medical men? In this country all men are supposed to be free and equal. By what sort of reasoning do these people justify themselves in their demand that they be freed from this ordeal and that others must take it? It is just as fair for one as another. The sole reason that medical men are compelled to get an education is that they may be able to correctly diagnose cases and learn whether these are suitable for their different kinds of treatment. Christian Scientists need to know what cases are likely to be suitable for their treatment and what are not. While they might see some normal labors safely through by their treatment, it would hardly be proper for them to tell a woman with a crooked, narrow pelvis, who was being delivered of a child with an abnormally large head that no such event was happening. It seems that even Professor James must agree with us in saying that it would not materially interfere with a mental healer's legitimate work if he knew enough to avoid these tragic complications. We do not know how far the professor carries his *laissez-faire* doctrine, but it does seem as if he would permit the State to protect its citizens from such unnecessary danger.

He may hold that as long as people wish to play the fool even at the risk of their lives, it is best to let them take the consequences of their folly. But why not compel the directing fool to know the nature of his folly so that it may be checked?

AMONG THE EDITORS

THE UNIFICATION OF STATE REQUIREMENTS

It is, of course, desirable that the requirements for the license to practice medicine should be practically the same in the different States. The AMERICAN MEDICO-SURGICAL BULLETIN for February 10 calls attention to the fact in its leading editorial article, in which it remarks that it is certainly a hardship that "a great practitioner" living in Philadelphia, for example, should be debarred from attending a patient in Camden or in New York without having undergone an examination for which few properly qualified middle-aged physicians are fitted. The general practitioner, says our contemporary, has forgotten much of his anatomy and all of his chemistry and surgery by the time he has reached middle age, while the laryngologist, the etiologist, or the ophthalmologist has become "very misty in his knowledge of leg or rectal anatomy."

The BULLETIN mentions two plans by which unification of the State requirements might be accomplished perhaps. Our contemporary's suggestion strikes us as ingenious, and we can at present see no insurmountable difficulty in carrying it out, at least through the primary stage, that of forming an arrangement on the part of two or three adjacent States that should serve as the nucleus for an extension of the system. We heartily indorse the BULLETIN's statement that it would be unwise to attempt to procure national legislation on the subject.

—*New York Medical Journal.*

WHAT SHOULD BE OUR DUTY?

Each member of the profession should consider himself a sentinel whose duty it is to faithfully guard the interests of the profession and of the public in matters of health. The medical profession and every individual member of it should realize that we have the power—if we will wake up and use it—to eradicate every one of these evils. We are not too indifferent, and pay no attention further than occasional ineffectual complaining, until the enemy gains such

strength as to be formidable. We leave all the law-making to the politicians, most of whom care nothing about us. We do not protect our discoveries by patent-right, in order that mankind may reap full benefit, but we take no steps to prevent less scrupulous persons from taking advantage of all our discoveries and getting all the reward from the public. We allow ourselves to be duped and imposed upon on every side with the most idiotic complacency. Anything pays a doctor for his services—another title to hitch onto his name, a little well-turned flattery, a pass over the road, a promise to pay next year or as soon as convenient—and thousands of dollars' worth of work is done for nearly nothing. By and by we find out the profession is overcrowded, and that there is not enough work to go around; and that we are harassed by this abuse and by that imposition, and wonder and lament at the fix we are in. The fact of the matter is we have nobody to blame but ourselves. And another truth is: that we can right these wrongs just as soon as we really will to do so, and pull together for that purpose.—*Cleveland Med. Gazette.*

THE PHYSICIAN'S SIGNATURE

It will not be questioned, we presume, that the physician should be a person of dignity. But the dignity must be innate; it must not be put on. Is it dignified for a man to prefix the abbreviation of his professional title to his name written as a signature? We are aware that it is customary for our German colleagues to do so, but for what reason we never could understand. Of late we have noticed a tendency among the very young native American physicians to do the same thing. We think it is not to be commended. No doubt it is a matter of secondary importance, and we should hardly have thought it worth while to allude to it but for the recent appearance of the report of the treasurer of the New York Academy of Medicine, bearing four such signatures in print. The four gentlemen whose signatures are decked out with "Dr." prefixed to them are not only of great repute in the medical profession, but also quite familiar—none more so—with the usages of good society. Surely they never really signed their

names in that way. Some officious person must have interpolated the title. Still, we are puzzled by the fact that two other signatures, those of the other two gentlemen composing the auditing committee of the trustees, appear without it. Only in some such way as we have suggested can the occurrence be accounted for. We deplore it because we fear it is likely to set a fashion that will make New York doctors the laughing-stock of all the rest of the English-speaking medical profession of the world.

Custom sanctions the use of "Dr." on a physician's visiting card and on a hotel register. The abbreviation M. D. is ordinarily appended to the doctor's signature to a certificate only by request, and that almost always when the matter certified to is medical. Titles seem to us to be ludicrous on a financial document—we mean, of course, in signatures. We may be oversqueamish in this matter, but if anybody has anything to say in favor of the titled signature we should be glad to hear it. Appended to a letter, it is to us offensive.—*New York Medical Journal*.

NOT A VIRTUE BUT A VICE

By far the greatest part of the doctor's unpaid accounts are against the habitual delinquents or "dead beats." These may be poor, and if so they are the poorest kind of "devil's poor"; but in many instances they are as well able to pay the doctor as are any of their neighbors who do pay. Oftentimes they are better able to pay a bill than the doctor is to lose it, and they frequently indulge in more luxuries in their style of living than the hard-working physician whom they defraud. The genus is too well known to need further description. There are several species equally familiar and equally aggravating which we shall not pause to denounce. Their names are upon the books of nearly every practicing physician in the land, or perhaps in the world, and it is no credit to the profession that this is true. To attend these people for anything but cash fees is to permit fraud and to encourage others to similar dishonesty. The physician who carelessly allows such practices to continue condones the evil. Time may

have been when the physician was morally bound to answer all calls upon his professional skill without question as to pay. But in these days of shameless imposture and abuse of charity, it is his duty to ascertain who it is and under what circumstances he is to serve. To bestow service gratuitously—whether the gratuity is intentional or elicited by fraud—upon those who "could pay but do not" is not a virtue but a vice.—*Cleveland Medical Gazette*.

A FINAL TOUCH.

A case is reported from San Francisco in which a girl contracted a contagious disease—syphilis, to wit—in a manner which one might consider merely curious did one not know to what extent the people will go in submitting to whatever their barbers and hairdressers choose to do for them. In this case the ulcer was situated on "the left side of the vermilion border of the lower lip." At first great difficulty was experienced in discovering its origin. After a time, however, it came out that the patient had been in the habit of going to a hair-dressing establishment, the *clientele* of which appeared to be, at the least, somewhat mixed. As she said, "in the shop where she usually went she had noticed many 'chemical blondes' and otherwise strikingly dressed women." Now at this shop it seems that a very filthy and dangerous custom prevailed. "The hairdresser, as a final touch, drew a 'rouge stick' across the lips of her customers." This is bad enough—and we wonder whether this little "final touch" is common in London—but after all, it is only one step worse than the dirty little brush with which most barbers try to daub brilliantine on to the moustaches of their more submissive clients. In the account from San Francisco, however, there is worse to follow. "The 'rouge stick' is a cylinder composed of a firm, red ointment. The firmness necessitates a slight moistening before being applied, and, disgusting to relate, this is frequently accomplished by the hair-dresser first putting it in her own mouth and then deftly drawing it across the lips of her customers." This may or may not be so; but in any case, "all customers are treated with the same 'stick.'" It is easy to say that

such a thing would not be tolerated in England, but when we hear that, notwithstanding the recent fatality from the use of petroleum hair-wash, the demand for that method of removing dirt from the hair is greater than ever, we must confess that we have our doubts as to there being any limit to what some women will put up with for the sake of adding to their personal charms. We cannot speak too strongly against the use of the "rouge stick" as a final touch. Even at home it is a disgusting display of morbid vanity, but when done by a public "stick" it is filthy and dangerous in the extreme.—*The Hospital*.

DIETARY CRANKS

Exclusive systems of diet result from the application of observation on disease to the regulation of the body in health. It is only necessary to change the disease which is on view to get an entirely new set of requirements. There is no doubt of the efficacy of raw meat, dry bread, and hot water, exclusively, in the very common acid-dyspeptic states. Plethoric individuals with the irritated kidneys and neuralgic twinges of the uric-acid condition fly with joy to the grains and nuts of Battle Creek.

A sect has lately arisen which, if we are informed aright, largely discounts the very moderate restrictions of the two schemes mentioned above. It has evolved a theory which is truly ponderous in the way in which it tramples down the joys of the table. The Ralston Club has solved the mystery of arterio-sclerosis. Their logic is simple. The arteries calcify; the lime-salts cause calcification; all foods except fruits and all natural waters contain lime-salts; *ergo*: eat nothing but fruit, drink nothing but distilled water. They apparently assume that with this one mighty brain-throb they have solved the problem of life, and that they have left men no shadow of an excuse for dying under two hundred years of age. The monkey, the nearest of kin to the hairy progenitor of man, is appealed to as a touching instance of plain living (we wish we could add high thinking, but though the apostles of Ralston may

believe it they do not expressly say so). The monkey, they tell us, eats only fruits, and never drinks water with his meals. Presumably the reason why he fails of the double century mark in respect of age is because he does not drink distilled water.

The Ralstonites pause in their consideration of the animal kingdom with the monkey. This is unfortunate. The raven, for instance, lives to be one hundred years old. He lives on carrion. The next army of cranks may be induced to follow his example.

The fruit-eating craze is possibly the most degenerate of the many recent fads. The fruit-eating and pot-bellied natives of the tropics and their next lower relatives, the apes, are truly inspiring objects of imitation by civilized man; not even their outdoor and arboreal lives save them from the consequences of a meager and irritating regimen. It is truly pitiful to see the army of neurasthenics, dyspeptics, rheumatics, starving their tissues and acidulating their blood at the beck of a few, to put it charitably, hare-brained enthusiasts. It is fair to suppose that a troop of rickety children will later rise up and call them anything but blessed, a fate from which the ape saves himself by abundant potations of river-water.

The fact with regard to fruit is, that although it contains little nourishment it agrees well with many people endowed with a vigorous gastric mucosa and fairly alkaline blood. To them it brings looseness and joy. In many dyspeptic states it is the first food-stuff to disagree, and to the ill-nourished neurasthenic it is a miserable substitute for the better tissue-builders.

An appeal to the facts of evolution gives little comfort to the cranks of one dietary idea. Primitive man has as hunter and herdsman thriven on an animal dietary. Nuts and fruits have served his turn as well, and encouraged him to the cultivation of the cereals. There is no evidence to show that the people of any nation have become longer-lived or shorter-lived on account of an exclusively vegetable dietary, or that any association of cranks has increased the longevity of its members by any exclusive system whatever.—*Alienist and Neurologist*.

CURRENT TOPICS

"DENGUE OR YELLOW FEVER," WHICH?

The above is the title of a paper read by Dr. Robert T. Morris before the South Texas Medical Association, reproduced in the *Southwestern Med. Rec.* (Jan., 1898).

The epidemic in Texas in the autumn of 1897 contained many cases of dengue. Dr. Guiteras visited Houston and Galveston during the progress of the epidemic, and diagnosed at least four cases of yellow fever in Houston and others in Galveston. Many Texas physicians claimed the epidemic to be dengue alone, and they believed Drs. Guiteras and Swearengen were in error in their diagnosis of yellow fever in any of these cases, regarding them rather as "anomalous cases" of dengue, upon the following grounds:

1. The improbability of infection;
2. The absence of cardinal symptoms of yellow fever;
3. Similarity of the two diseases;
4. Absence of the connecting link between "anomalous cases;" and
5. The low mortality-rate.

Dr. Morris analyzes the epidemic, refutes the objections to diagnosis of yellow fever in the well-marked cases, admits that the epidemic was mixed, and clears the air of confusion of the two diseases. He summons evidence that Ocean Springs, Miss., was the focus of genuine yellow-fever infection from one or two possible sources, viz., Ship Island, or Cuban refugees who had come there in catboats, evading quarantine, and boarded with the Gonzales family, with whom also the man who had died of yellow fever in Louisville had boarded before quarantine was instituted against Ocean Springs.

He considers the next two objections as follows: The cases (called hybrid) at Ocean Springs possessed all the symptoms of yellow fever to the smallest details.

The facies was peculiar to yellow fever, presenting congestion of the skin, like that of measles, before eruption. The conjunctiva was injected and yellow.

The "pulse and temperature were divergent," as in yellow fever, the temperature rising and pulse falling during the first and second days. This rarely occurs in dengue, and then only in convalescence or defervescence.

Jaundice, so characteristic of yellow fever, was present in 50 per cent. of these cases. It is a rare symptom in dengue.

The urine is scanty or suppressed and albuminous in yellow fever, but this occurs

very rarely in dengue. No acute pyrexia, except yellow fever, presents this phenomenon as early as the second or third day. Dr. Parham regards this as pathognomonic. Foster and Keating make the differentiation between dengue and yellow fever turn largely on this marked difference in the urine in these two conditions, the urine being seldom or never albuminous and always abundant and of low specific gravity in dengue. In this epidemic one physician had thirty cases with albuminous urine, and there were many cases of scanty and suppressed urine.

The odor of yellow fever is described as resembling the washings of a gun, or the smell of a fish-market. This was distinctly noticed in October in this epidemic.

The eruption of an erythematous or rubeoloid character presented during the first three days. Sternberg regards an erythematous eruption around the scrotum as characteristic, and Berenger Feraud believes it to be pathognomonic. It is not present in dengue. It prevailed in this epidemic.

Hemorrhages from nose, gums, stomach, bowels, womb, kidneys, and bladder were found. Three cases had black vomit. Hemorrhages are not common in dengue.

4. The so-called "anomalous cases" can, in many instances, be traced to the epidemic. The negress, Eva Duncan, was contaminated in Beaumont by the Lovejoy case. Besides, her hematuria was unlikely to be malarial, since hematuria was rare in malaria in negroes.

A well-known physician in Houston had several "anomalous cases" that were albuminuric and had hemorrhages.

5. The mortality in the epidemic was considerable, 10.8 per cent. in New Orleans, 17.3 per cent. in Mobile, etc. Foster says that dengue is proverbially non-fatal. Matas and Holliday support this opinion.

The above combination of symptoms is observed in yellow fever, and in yellow fever alone.

H.

THE HEALING OF INCISIONS IN VEGETABLE TISSUES

In an interesting comparative study on the healing of wounds in plant-tissues, S. G. Shattock, in the *Jour. of Path. and Bact.*, Vol. V, 1898, p. 39, presents a brief outline of the contrasts, which may be noted in such healing with that found in animal tissues. He states in comparing the repair in plant and in animal tissues, that the methods of repair of incisions are comparable to those named primary and secondary adhesion in man and the higher animals. The analogy with that of secondary adhesion is

not, however, an exact one, for this reason, that the two surfaces concerned in animal repair do not strictly heal before they are brought in apposition, but remain "granulating," whereas the exposure of the surfaces in plants is accompanied with a repair by cork before the subsequent fusion takes place. There is, in fact, nothing in the repair of animal textures exactly resembling this process in plants. In the case of plant-repair, the new tissue is derived solely from that bordering the wound.

In animal tissues the repair is complicated by the part played by the blood-vessels, for every injury is attended with what is histologically an initial inflammation, and this involves the migration of leucocytes from the vessels into the faces of the incision.

In plants the proof is direct that the whole of the repair is effected by the original cells of the part injured; there is obviously nothing resembling a migration of cells from any circulatory system.

Observation has shown that in animal textures the repair of nerve and muscle is accomplished by the elements of the original structures. The connective tissue offers the most difficult field for this determination; until recently no direct observations were forthcoming to show whether the connective-tissue corpuscles by their subdivision produce the proper reparative tissue, namely, that from which the fibers of the scar are developed, or whether the migrated leucocytes take part in its production. The evidence at present is to show that the leucocytes take no permanent part in repair, i. e., that the scar-tissue, properly so-called, is produced from the connective-tissue corpuscles—a conclusion Surmised would prove true some years ago from investigations into the repair of vegetable tissues. In this result the reparative process in animals corresponds with that in plants, namely, that it proceeds, not from any extraneous elements, but from the cells proper to the damaged tissue itself. J.

[SPREAD OF THE TYPHOID ORGANISM IN SOILS

Dr. John Robertson has carried on experiments to investigate the growth of *Bacillus typhosus* in soil (*Brit. Med. Jour.*, Jan. 8, 1898), and he finds that vegetation is detrimental to the healthy growth of the organism. This subject is one of some importance, as it may go to explain why typhoid fever is so much more prevalent in towns than in rural districts. Cultures of the typhoid organism planted at a depth of eighteen inches grew to the surface, so also patches inoculated on the surface showed that at least the organism could grow down-

wards to a depth of three inches. It is possible under the existing conditions that this downward growth may have been assisted by mechanical means, that is, rain or artificial watering. So far as the results go no lateral spread could be ascertained. Both in laboratory experiments and in experiments under natural conditions it was abundantly proved that the typhoid organism could grow over the surfaces of stones, etc. It was attempted in another series of experiments to detach the organism from the stones when dry by causing a current of air to impinge on them; this, however, in each case proved unsuccessful.

How far the typhoid organism can be given off from decomposing masses of semi-liquid filth was also examined into. For this purpose sterile plates of agar or gelatin plated were inverted over masses of semi-solid excrement, which had been largely contaminated with a culture of the typhoid bacillus. Such plates when kept at the ordinary temperature remained sterile for a period of nearly three months. Those that were kept at 37° C., and which presumably were exposed to a very actively decomposing mass, soon showed growth of various organisms. In no case did the typhoid organism appear among the growth. These plates were distant one and a half and four inches from the decomposing fecal matter, and at both distances apparently equal contamination took place. G.

NEW VOLUMETRIC METHOD OF ESTIMATING URIC ACID IN URINE

The Brit. Med. Jour. (Feb. 5, p. 346, 1898) contains an article by Dr. F. W. Tunnicliffe and Otto Rosenheim, Ph.D., on a new method of estimating uric acid in urine, based on the solubility in water of urate of piperidine, a salt formed by the action of piperidine on uric acid, with which it unites in molecular proportion.

Uric acid separated from urine and suspended in water, to which a few drops of an alcoholic solution of phenolphthalein have been added, will unite chemically with a piperidine solution until all the acid is dissolved before the characteristic red color-reaction occurs between the piperidine solution and the phenolphthalein. A piperidine solution of definite strength enables the exact calculation of the amount of uric acid combined.

1. The most suitable solution of piperidine was found to be 1 to 20 normal solution. This is standardized to ascertain the amount of it required to neutralize a certain amount of 1 to 20 normal acid solution.

2. The authors obtained the uric acid from urine by precipitating it with ammo-

nium chloride and subsequently decomposing with hydrochloric acid. The uric acid thus obtained from 100 c.c. of urine is filtered and repeatedly washed to free from HCl, 15 to 20 c.c. of water being found enough for this washing in most cases.

3. The pure acid is rinsed with 20 to 30 c.c. of hot water off the filter-paper into a small vessel. This is brought to the boiling-point, and a few drops of alcoholic solution of phenolphthalein added. Into this the standardized piperidine solution is allowed to run from a burette. The urate of piperidine will continue to be formed and to dissolve so long as there is free uric acid. But, the moment the latter is all combined the purple color-reaction will at once manifest itself.

One c.c. of a normal piperidine solution corresponds to 0.00425 gme. piperidine which equals 0.0084 gme. of uric acid. The number of c.c. of the solution used to bring on the color-reaction, multiplied by 0.0084 will give the amount of uric acid present. Where 100 c.c. of urine are taken in the first place, the uric acid obtained will be the percentage of it in the urine.

In a table of results given by the authors, in which this method is adopted under control of the method by weighing, a variation of only 2-10 mg. was found, accounted for by the urinary pigments which increase the figures in the weighing method. H.

WOODBIDGE TREATMENT A FALLACY

Dr. R. W. Holmes writes very disparagingly about the Woodbridge treatment of typhoid fever (*Chicago Med. Recorder*, Vol. XIV, No. 2, p. 120). When the town of Ironwood, Mich., was stricken with typhoid fever in 1893 a temporary hospital was opened, of which the writer was placed in charge. Appreciating the advantages to be derived from a thorough trial in an epidemic, Dr. Woodbridge came down to the city and secured the permission of the health-officer to use his treatment in the hospital. A thorough trial was given it under Dr. Woodbridge's personal supervision for about three weeks, and after Dr. Woodbridge's departure the method was continued on appropriate cases for some time longer. The author presents the epitomized histories of twenty-two cases from that epidemic, and the showing is certainly not in favor of the Woodbridge treatment. The claim that no complications occur under that treatment is entirely unfounded, says the author. In these twenty-two cases the treatment had to be stopped twice on account of excessive movements from the bowels, which were depleting the patients; five times salivation occurred, which is a serious matter in the typhoid state with the

impaired metabolism; in two cases hemorrhage occurred; in one case it took place early in the course of the disease, and stopped on discontinuing the drugs; the other case died. Out of the twenty-two cases four died, a mortality of 18 per cent.; but as one case presented symptoms of peritonitis before the Woodbridge treatment was begun, and died on the next day after instituting that treatment, the author eliminates it, thus making the mortality 13.6 per cent.

To the question whether the Woodbridge treatment is capable of aborting typhoid, the author gives a decidedly negative answer. From the date of commencement of the treatment, five cases had normal temperatures within two weeks; four were convalescent on the fifteenth to the twenty-first day; the remaining nine who lived were cured in from the twenty-fourth to the fifty-second day.

The author's conclusions are as follows:

1. The Woodbridge treatment does not abort.
2. The mortality is not influenced by the treatment.
3. Five to 8 per cent. of typhoid in an epidemic of mild type, or even of medium severity, will cure themselves within two weeks.
4. A user of the Woodbridge treatment who invariably has abortive "results does not correctly diagnose all" his cases.
5. Complications are not prevented by the Woodbridge treatment.
6. A positive diagnosis is prerequisite to make statements concerning any abortive treatment valuable.
7. Believers in the abortive treatment of typhoid must bear in mind the existence of the abortive type of Liebermeister and the typhus levis of Griesinger to intelligently differentiate typhoid from the diseases with which it may be confounded. R.

LIVING "GAMMARUS PULEX" VOMITED

At the Académie des Sciences, Jan. 4, 1898, M. Laboulene related, *Jour. de Clin. et de Thérap. inf.* (No. 2, p. 26, 1898), the case observed by Dr. Dubois, of Milan, of a patient who had, after vomiting for fifteen days, thrown up a fresh-water shrimp alive, and two like it that were dead. Since then the patient has ceased vomiting and retains his nourishment. The water he drank came either from the well in his court-yard or from the Seine. It is usual for the gammarus to thus remain alive after being swallowed. This one had not been swallowed purposely, nor was there room for deception as to the reality of the parasite, having been vomited. H.

ORIGINAL PAPER

ON THE ACTION OF TRIPHENIN

By DR. GUSTAV GAUDE

FROM the time when the phenetidin derivatives were found to possess antipyretic properties of greater or lesser value, according to the acid radicle with which the phenetidin radicle was combined, search has been made for the derivative that would combine every possible advantage possessed by the antipyretics heretofore introduced, without the drawbacks exhibited more or less by them. The search was more particularly directed to an examination of those derivatives in which the radicals of the higher fatty acids—propionyl, butyryl, isobutyryl and valeryl—were combined with the base. These compounds were all experimented with chemically, but only one, the propionylphenetidin, was found to possess such decided value as to make its employment therapeutically exceedingly advantageous.

Propionylphenetidin, or triphenin, as it has been called for the sake of brevity, is obtained by heating parphenetidin and propionic acid together. It forms a white, odorless, glittering, crystalline powder, and has a faintly bitter taste. It melts at 120° C. (248° F.) and dissolves in 2000 parts of cold water, being, hence, very much less soluble than the antipyretics more commonly employed, such as lactophenin, phenacetin, and antifibrin.

Before triphenin was employed clinically a number of experiments were made with it on animals. Doses of from 2 to 3 gme. (30 to 45 grn.) were recently given rabbits without any apparent change in the general condition being observed, aside from a tendency to sleepiness. A dog weighing 7 kilos (15.5 pounds) bore 3 gme. (45 grn.) daily for two weeks without any disturbance of his condition. I personally took 2 gme. (30 grn.) and even 3 gme. (45 grn.) repeatedly, at one dose, and up to 6 gme. (90 grn.) per day, without the slightest by-effects being observed, excepting a feeling of sleepiness that now and then followed the taking of large doses. The remedy was

then employed in the Medicinischen Universitätsklinik und Poliklinik at Halle. Its antipyretic power was tested in twelve cases of typhus abdominalis, in three of pneumonia crouposa, in five of influenza, in one of angina, one of hepatic abscess and three of tuberculosis—altogether twenty-five cases.

Let us first ask, before we go any farther, what requirements are demanded of a good antipyretic? From such a one it is required that, given in doses that are not too large, it causes a certain reduction of the temperature, as slowly as possible, and without being accompanied by any considerable perspiration, because otherwise, when the antipyretic effect rapidly declines, the heat-centers are powerfully irritated, and a rapid rise of temperature follows close on a chill. Excessive perspiration, and much more so a chill, are not only very disagreeable symptoms, but must be regarded also as being directly hurtful to the organism, the former because of the danger of contracting a cold, the latter because of the loss of vital energy it occasions, and the collapse that experience has shown frequently follows it. When we now compare the action of triphenin with the above-mentioned requirements, we find, judging from its effects in the twenty-five cases above mentioned, that the antipyretic power is observed in a fall of temperature of from 0.5 to 0.7° C. (0.9 to 1.26° F.) after one hour, and of from 1.5 to 2° C. (2.7 to 3.6° F.) in two hours. The decline goes on steadily, and attains its lowest point in from three to four hours, the temperature rising to its previous height again in from six to seven hours.

The action depends, however, not only on the size of the dose and the time of exhibition (greater at the period of remission), but also upon individual peculiarities as well. The decline of temperature is unaccompanied by any manifestations of violent, hot flushes; it is most usually accompanied by a moderate perspiration, which was declared by many patients to be beneficent. The rise of temperature is also very regular and is free from such by-effects as chills or rigor. The other ordinary by-effects, such

as usually follow the exhibition of other antipyretics, and among which are the disadvantageous influence on the appetite, inclination to vomit, feeling of uneasiness, debility, gastric disturbances, cyanosis, or even collapse, were never observed with triphenin, even upon long-continued use.

Triphenin also exercised a most striking influence on the subjective symptoms. In the very large majority of patients, a decided feeling of well-being accompanied the reduction of the fever. The invalids felt easier, frequently declaring this spontaneously, became talkative and brighter, desired food, etc. The pains in the head, back, and limbs, particularly in influenza, were ameliorated or even entirely relieved in a short time.

One observation, which I made in many cases, was that triphenin possesses also hypnotic powers. Invalids who slept poorly claimed that upon taking it they became calmer and soon fell into a good, invigorating sleep. The triphenin was given in doses of from 0.5 to 1 gme. (7.5 to 15 grn.) in wafers, or placed on the tongue and swallowed down with a little water.

In connection with the investigations regarding the action of triphenin as an antipyretic, another property possessed by the remedy, which is undoubtedly connected with the antipyretic one, is the influence it exerted in acute articular rheumatism. The triphenin was given in six cases of polyarthritidis rheumatica with uniformly excellent results and its effect on the symptoms in some respects was wonderful, whether of recent origin or not.

Even in these cases also I observed the hypnotic power already mentioned. One patient, on whom doses of 0.02 gme. (1-3 grn.) morphine had no longer any effect, obtained by the use of the triphenin so long-continued and refreshing a sleep as to be led to believe at first that the powders were intended as a hypnotic.

So far as any by-effects, such as ringing in the ears, lassitude, gastric disturbances, inclination to vomit, etc, were concerned, none was ever observed in these cases. In only one case did a transient exanthema

appear, such as not infrequently follows the administration of phenacetin, lactophenin and antifebrin.

The action of triphenin as a nervine was also studied, the remedy being administered in a number of cases met with in the Medicinischen Universitätsklinik und Poliklinik at Halle, and among these were eight cases of hemicrania, ten of ordinary headache, three of rheumatic troubles, ten of neuralgia affecting various nerves, three of debility of the nervous system, and five of changes of the nervous system (tabes). Besides these cases, I had frequent opportunities of prescribing triphenin in headaches following alcoholic intoxication (katzenjammer), and in these its action was always prompt.

In the various affections of nervous origin in which triphenin was tried, successful results were usually obtained in a short time—in from one-half to one hour, and after eating, somewhat later. In the cases of hemicrania the result was most excellent and effective, in spite of the fact that among them was a number of old and stubborn forms in which other remedies had been ineffective and of no avail. Even when a relapse occurred now and then, triphenin was still able to afford complete relief. So far as the cases of ordinary headache are concerned, the effect was none the less successful. The rheumatic affections were equally beneficially affected, as were also acute neuralgia of certain nerves and one case of neuritis. Variable success was had in one case of chronic neuralgia, in intercostal neuralgia and one ischias, while non-success was experienced in one case of trigeminal neuralgia, the last being a very stubborn neuralgia that had resisted all the remedies hitherto applied. In the cases of nervous debility, the effects of triphenin were excellent, and in the lancinating pains in tabes the remedy acted most splendidly. The crawly, creepy sensation in the limbs abated, and the walk, at times disturbed, was decidedly improved. In many cases triphenin acted in the highest degree as an anodyne and calmative, when phenacetin, lactophenin and antipyrin had been employed with but slight effect.

In this series of cases the hypnotic power

of triphenin was also evident, by means of which patients were greatly impressed. It may be partially due to the fact that with the cessation of the pain, the cause of the sleeplessness is removed; still it was seen that, in several cases in which sleeplessness was due to nervous surexcitability, triphenin has an influence on the nervous system or exerts a hypnotic action. It may also be mentioned here that, given in equal doses, the hypnotic effect produced by triphenin was always more decided than that caused by lactophenin.

That the action exerted by triphenin as a nervine particularly, depends on individuality, is clear, and there may be cases in fact in which another antineuralgic instead of triphenin could be given with perhaps better results. No disagreeable by-effects were, however, observed in any of these cases.

To sum up, I may state my conclusions regarding triphenin as follows:

1. Triphenin is distinguished in so far as it is free from any disagreeable or deleterious by-effects. It is a harmless remedy and may, hence, be given for a long period without having any pernicious effect on the organism as a whole. That triphenin has no by-effects, or only to an exceedingly small extent, is due to the fact that the bases are para-amidophenol and para-phenetidin, which act far less energetically than anilin, chinolin, or phenylhydrazin, from which acetanilid, kairin, analgen, and antipyrin are obtained. Besides, triphenin possesses the advantage, due to its difficult solubility, of being able to gradually develop its action.

2. The single dose, whose size depends on the individuality of the patient and form of the ailment, ranges from 0.5 to 1.0 gme. (7.5 to 15 grn.). The daily dose amounts to 3 gme. (45 grn.) best given in wafers.

3. *a.* Triphenin responds to every requirement that may be demanded of a good antipyretic. Its action is always certain; the decline of temperature proceeds very regularly, the apyrexia lasts for several hours, and the following rise of temperature is slow.

b. In acute articular rheumatism the ef-

fect is good. There occur, at times, aggravated cases in which the results obtained are less, in time; however, triphenin is a remedy which, in such cases, should a change of remedy in the treatment be desired or necessary, will afford a certain prompt and considerable relief for many days and even weeks.

4. Triphenin acts intensely and rapidly as a nervine, in neuralgias of every kind, as well as in special nervous ailments, and also in tabes.

5. It quiets the nerves in the highest degree, and not infrequently causes sleep.

6. It acts also exceedingly well in cases in which antipyrin, phenacetin, and lactophenin were found to be less effective.

Triphenin, hence, deserves every consideration.

It is desirable that it be very frequently employed, and by reason of its advantages and its certain action, it ought soon to make a place for itself among our *materia medica*.

Herpes Zoster Caused by Arsenic

Dr. Eugene L. Crutchfield, in the *Med. Bull.* (Vol. XX, No. 1), says that, as has already been admitted by competent observers, this disease is sometimes produced by the administration of arsenic. It is well known that arsenic has an action upon the nervous system, and it is also an established fact that zona is a disease of the skin, due to trophic disturbances of certain nerve-tracts.

Bearing in mind these two facts, we need not be surprised that when an idiosyncrasy exists arsenic should produce this effect. The author reports two cases. The first, a young man (17 years), suffering with incipient phthisis, had taken arsenic continuously for months, and then presented himself with the characteristic vesicular eruption. The arsenic was withdrawn, and an ointment of carbolic acid (grn. XV) and ung. zinci oxidi benz. (1 oz.) was ordered. Afterward,

Zinci Phosphidi.....	2 grn.
Ext. Nux Vomica..	2½ grn.
Ferri Iodidi.....	1 scr.
M. ft. pil No. xx. Dose—One pill three times daily.	

Under this treatment the affection subsided. The second case occurred in a woman 17 years of age, and followed large doses of arsenic given to eradicate malarial poisoning. The course of the disease, treatment, and results were similar to case number one.

U.

SELECTED PAPER

THE MORBID ANATOMY OF A CASE OF HEREDITARY ATAXY*

By DR. ADOLPH MEYER

DR. SANGER BROWN, in 1892, reported in *Brain* and in the *North American Practitioner* the case of a female, aged 63, having ataxy of the legs, the first symptoms of which appeared when she was 45 years of age. Dr. Brown said of her that "the course of the disease has been slow, she can still walk on an even surface without assistance, but has to go very slowly and sweeps about considerably, usually steadying herself by holding on to furniture. The hands are certainly involved, but not greatly, and she can still do needlework and pour tea, vision is considerably affected, but she can read coarse print in dim light, cannot read in a bright light; speech has become very slow but is quite distinct. General health fairly good, other symptoms negative. History given by a relative, herself affected, who has seen her almost daily for years."

This person died at the age of 67, four years after above report, of tubercular diarrhea, from which she suffered several months. About four months prior to her death the neck of the femur was fractured by a fall, after which she was unable to leave her bed. Dr. James, the patient's medical attendant for over a year prior to her death, also attended for several years two nephews and a niece of the patient, who were also affected with the same disease.

He states that the knee-jerks were greatly exaggerated, but that there was no sensory disturbance of any kind. There had been marked failure of vision for two years, at least, before death; she had lost the power of walking alone two years before fracturing her thigh and for about the same time had been unable to do needlework or pour tea. The facial expression for the last ten years of her life was highly characteristic, the partial ptosis and relaxation of the facial muscles being expressive of somnolence

when in repose, but when in animated conversation there was overaction of some of the muscles of expression and underaction of others, giving the face a peculiar appearance. There was never any evidence of mental disorder.

The study of the sections was as follows: Spinal Cord—Sections from the lumbar, lower and upper thoracic and cervical cord were made. For the study of the corpora amylacea a short fixation in Müller's fluid, and subsequent alcohol-hardening, proved satisfactory for a stain with Böhmer's hematoxylin. The other specimens were completely hardened in Müller's fluid, and, with or without a total stain in a 1-per-cent. carminate of sodium-solution, dehydrated and embedded in the usual manner. The stain for the medullated fibers was Wolter's modification of Wiegert's method, with or without counterstain by 0.5 per cent. acid fuch-sine.

The cross-sections of the cord are not thinner than might be expected in a woman of 67. The diameters are as follows:

	Transverse.	Antero-posterior.
Cervical enlargement...	10.8 mm.	8.5 mm.
Mid-dorsal region.....	7.0 mm.	7.0 mm.
Lumbar enlargement...	9.5 mm.	8.0 mm.

The specimens stained with Böhmer's hematoxylin, after a short fixation in Müller's fluid, show a remarkable number of corpora amylacea throughout the spinal cord, the bodies are distributed very much as Redlich represents them in his drawing.

They are most numerous in the dorsal half of the cord, especially in the entrance-zone of the posterior roots, where they are arranged in strings of several layers; further, along the posterior septum, in the subpial neuroglia-layer, along blood-vessel septa, and all through the posterior columns. In the lateral columns they keep near the surface; they are relatively rare in the anterior horns and practically absent in the rest of the gray matter and in the ground bundles. In one posterior root-zone over two hundred can be counted readily. They vary in size, and are easily distinguished from the much smaller nuclei, as Redlich, Koller and others have shown, they occur frequently in old people, but I have not been able to ob-

* *Bra n*, Part LXXIX. A bstract.

ain such an excessive number in any of my cords, nor could any one show me similar specimens. We must say, though, that in the ordinary staining methods the granules do not present themselves as clearly as in a specimen which was not very long in Müller's fluid. The material of comparison is therefore not quite fair. The neuroglia and the blood-vessels were examined with a stain of Ehrlich's hematoxylin and subsequent counterstain with picric-acid fuchsine-solution. This stain gives a very satisfactory bright color to the mesoblastic connective tissue, while the neuroglia proper remains a duller red.

The pia is somewhat thickened from 0.1 to 0.15 mm. over the lateral columns, but only about 0.025 to 0.04 over the dorsal columns, and 0.04 to 0.05 over the anterior. The blood-vessels are normal in number, and there is very little if any hyaline degeneration of the muscularis of the larger ones.

The neuroglia is somewhat increased in the whole extent of the subpial neuroglia-layer. The latter measures about 50 micromillimeters over the dorsal columns, about 25 micromillimeters over the ventral half, and over the dorsal part of the lateral columns and posterior root-zone it varies between 40 and 100 micromillimeters. Frommann says the diameter of the neuroglia-margin varies between 0.01 and 0.06 mm., according to Goll from 0.02 to 0.03 mm. Kölliker states that the layer varies from 0.022 to 0.045 mm. There is no doubt, therefore, that the increase is fairly well marked in our case. In the region of the pyramidal decussation this is quite plain, since the thickening is limited to the extent of the cerebellar tract.

Lumbar Cord.—The roots are quite normal. The posterior columns have a normal proportion of thick and thin fibers. It is hardly possible to detect anything abnormal; perhaps the neuroglia-septa are slightly broad in the central portions of the posterior columns. But it is impossible to make out anything but a faint similarity with Flechsig's or Marinesco's figures, since the roots, and especially the lateral part of the middle root-zone are quite normal; only

the mesial part of Flechsig's middle root-zone may have a slight increase of neuroglia.

The amount of fibers and collaterals is quite normal in the gray matter; the motor-cells, though pigmented, show mostly a well-defined nucleus near the center of the cell-body.

The antero-lateral columns are densest close to the gray matter (ground bundles). The region of the pyramidal tracts shows very thick fibers, but no striking increase of neuroglia.

In the thoracic region nothing deserves special notice besides the condition of Clark's columns. The number of their cells is decidedly small. The cells that remain are partly normal, partly show a change which I noticed often in general paralysis and elsewhere, and which Marinesco has lately described in cases of locomotor ataxia.

The normal cells, very few in number, have the nucleus round, and in the center or near it. The granulations, of course, are not visible, since the hardening with Müller's fluid rarely preserves them. The larger number of the cells are more vesicular; the nucleus is pressed to the periphery, and is crescent-shaped. There are further a few cells which are quite shrunken and have no differentiation. There can be no doubt that these findings stand in some connection with the condition of the cerebellar tract mentioned below.

The posterior and antero-lateral columns show no deep lesion. Their condition stands about midway between that found in the cervical and the lumbar regions with regard to the increase of neuroglia and the proportion of thick to thin fibers.

The Cervical Cord.—Here we find a number of very pronounced alterations. The posterior columns show a field of degeneration along the middle of the septum; the superficial part of Goll's column is also affected, though less markedly, and, on either side, the transition-area between Burdach's and Goll's tracts is somewhat rarefied. In the normal cord most of the fibers in these regions are of moderate thickness, forming plain rings with the Weigert stain;

thin fibers, with almost no lumen, are rare. In our sections many of the thick fibers are gone, and also the thin fibers are scarcer. The neuroglia is correspondingly increased. the blood-vessels are a little wider and surrounded by thick neuroglia-masses. The changes are somewhat more diffuse and less marked than in tabes. The lateral columns of the normal cord show a layer of thick fibers plainly limited all along the surface of the pyramidal tract, but less distinctly outlined in the region of Gowers' antero-lateral tract. The distinction is formed by the fact that the fibers of the direct cerebellar tract have very few collaterals, while these are abundant in the pyramidal area and also in the ground-bundles and a little less in the antero-lateral columns. The collaterals show with the Weigert stain under a low power (Reichert or Leitz) as points without lumen, except the smaller ones, which are point-shaped.

In our case, we notice at once the diminution in size of the direct cerebellar tracts. Only relatively few large fibers are left, and they are separated by neuroglia. In the normal cord, this area, so free from neuroglia and collaterals, is about 0.4 to 0.5 mm. broad; in our sections, the atrophic area measures 0.15 mm. at the most on the side where the proliferation of neuroglia is less marked; on the other side it is of normal breadth (0.4 to 0.5 mm.), but containing much interstitial neuroglia, fewer fibers, and broader blood-vessels. Farther ventrally beyond about the middle of the lateral columns the area loses its demarcation rather suddenly, and all we can see is a general deficiency of thick fibers along the surface. On the one side the bundle is rarefied en bloc for 2.2 mm. from the posterior root and superficially, only with a little less demarcation for further 2.4 mm.

The fibers which remain are very large, averaging a diameter of 10.15. Throughout the rest of the anterior and lateral columns there are only few fibers of this size in our specimens, while they are fairly numerous in the normal throughout the pyramidal tract and the antero-lateral tract-area. The direct pyramidal tracts show a slight increase of neuroglia, the lateral py-

ramids lesser. It is hardly possible to make out Gowers' tract; all we can say is that the ground-bundles are denser and richer in collaterals than the more superficial layers. The gray matter shows no evident alteration.

Transition into the Medulla.—All we have to note is the extension of the changes described; hardly any change in the pyramids, slight degeneration in the posterior columns, and especially degeneration of the direct cerebellar tract on both sides, not complete, but having a triangular area with scanty large fibers, broad neuroglia septa, and especially a well-limited thickening of the marginal neuroglia-layer. The field is decidedly smaller than normal (it is easy to see it in the normal carmine specimens and also in Weigert sections). The thick fibers of the antero-lateral tract (ventral cerebellar) are also rare, but not kept apart by neuroglia.

Medulla Oblongata.—The medulla has been torn off from the pons at the autopsy and was not satisfactory for a careful examination of the topography. All we can say from the sections is that the area of the direct cerebellar tract continues as described and then disappears in the restiform body, where at least a slight rarification of fibers can be made out. The ventral cerebellar tract has few large fibers and is somewhat pale. The olivary bodies have a normal amount of fibers and cells. The pyramids are slightly less dense than normal.

Cerebellar.—Only pieces of the cortex of the hemispheres are examined. The folia are hardly atrophic as a whole. Nothing can be made out but, perhaps, a slight reduction of the number of Purkinje cells in a few parts. This also occurs in normal specimens, although perhaps less than here.

The optic nerves are free from degeneration and also from neuroglia-overgrowth.

This case seems to be the first addition since Marie established the clinical pictures of cerebellar heredo-ataxia. On account of the defective condition in which the brain reached the pathologist, several points are not as clearly decided as would be desirable.

U.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Diagnosis of Intestinal Worms

Dr. Muller de la Fuente, *Gaz. méd. de Liege* (No. 46, 1897), maintains that a positive diagnosis of intestinal worms may be made from the presence of a sudden localized colic, and a marked contraction of the visual fields on both sides. S.

Thyroid Feeding in Insanity

Dr. Cross (*Edinburgh Med. Jour.*, No. 11, 1897) relates twenty cases of insanity treated by thyroid extract with considerable improvement in some of the cases. Thyroid extract was administered in tabloid-form, 5 grn. each, from 6 to 12 tablets every day for about ten days. The cases under observation were:

1. Melancholia agitata—Four females and one male. The male only was greatly benefited.
2. Melancholia—Three females and four males. The females and all but one of the males were improved.
3. Senile dementia—One female, no improvement.
4. Chronic mania—Two females, no improvement.
5. Mental enfeeblement—One female and two males, no improvement.
6. Dementia—One female and one male, no improvement.

All cases gave more or less reaction to the thyroid, thus; Slight rise of temperature, slightly increased respiration and marked increase of pulse-rate, with weakness of the beat. The reaction became more pronounced at the end of the treatment, and was noticeable about a week after the discontinuance of the drug. The author advocates a trial of thyroid extract in all apparently hopeless cases of insanity. S.

Ciliated Cells; Their Importance, Especially in Respiratory Tubes

W. R. Aylett (*Virg. Med. Semi-Monthly*, Jan. 14, 1898) describes as an example of the motive power of the ciliated cells, an experiment upon a frog on a hot summer day. Its mouth was propped open and some cork-dust sprinkled therein. This was gradually propelled upward until it disappeared from view, when the frog was held up by the hind legs. When placed in ice-water, however,

and chilled through, and the experiment repeated, there was little or no movement of the cork. By cessation of the functions of these cells, death would result in many instances, with much greater rapidity than by the stoppage of any other emunctory of the body. The author asks how often, after exposure to cold, thereby causing more or less disturbance of ciliary movement, do we see pneumonia develop? And how often is bronchitis followed by pneumonia, because the ciliated cells are exfoliated in large numbers, the hostile germs finding a fruitful soil in the congested mucous membrane? How often has the physician seen a child drowned in its own secretions, suffering from catarrhal pneumonia or a simple bronchitis because of the administration of opiates, the cilia of infants being especially susceptible to it. All honor to the little soldier who, from the moment of his birth, falls into ranks and offers a hand-to-hand conflict with myriads of foes. The respiratory tract may well be called the Thermopolis of our existence. L.

Diet in the Summer Diarrhœa of Infants

S. Henry Dessau (*Clinical Recorder*, 1897) is of the opinion that in an acute attack of summer diarrhœa in a child under 2 years of age all albuminous and starchy foods should be withheld at once. Milk and the milk foods only tend to furnish fresh fuel for the growth of pathogenic bacteria in the gastro-intestinal tract. Give instead toast-water, made by laying in a large bowl two pieces of stale whitebread toasted brown on both sides; pour on boiling water till covered; add a pinch of salt and allow to stand till cool. The clear water is then poured off into a fruit-jar and kept cool by the ice. Barley-water, made by boiling a handful of pearl barley in a pint of water for one hour or more, a pinch of salt being added, can also be prepared, and after it is cool the supernatant liquid can be poured off for use. From one to three tablespoonfuls of either of these foods can be given every hour or two for forty-eight hours if necessary. They contain a considerable percentage of nutriment which is easily digested, and, if properly prepared, are rarely vomited. Alcoholic stimulants may be added if necessary. These drinks should always be given cold, as they are thus more grateful to an exhausted and feverish infant.

When the vomiting and stools have improved, which, with proper therapeutics, usually occurs within forty-eight hours, nursing may be resumed at intervals of either two, three, or four hours, according to age.

In deciding the question as to the best form

of food to use with artificially fed babies it must be borne in mind that the food that is the cheapest and easiest to prepare is the best for most persons. If sterilized milk be used it should not be for longer than the summer months, on account of the tendency to produce rachitis. The modified milk is expensive and can only be obtained in the large cities.

For ordinary cases a mixture of cow's milk, diluted one-fourth with water and containing a little cane- or milk-sugar and a pinch of salt or sodium phosphate, is to be preferred. A double boiler lined with porcelain, or made of agateware, can be obtained at any good housefurnishing store; into this the prepared milk is placed and the water in the outer vessel is allowed to boil for fifteen minutes. The inner vessel is then rapidly cooled by standing in cold water, and the contents poured into a well-scalded tight fruit-jar, and kept by the ice until required for use. The entire quantity required for use during the day can thus be prepared at once.

Occasionally it will be found that some other food must be used for infants recovering from a severe diarrhea. A combination of barley-water or barley-flour, a tablespoonful, rubbed smooth in a little water, and added to the diluted milk, may then be used with good results. To insure the thorough digestion of the starch that this contains, diastase or taka-diastase should be added.

Overfeeding must be carefully avoided. Every step in the preparation of the food and in its administration must be made with scrupulous cleanliness, and after each feeding the child's mouth should be wiped out with a bit of absorbent cotton wrapped around the little finger and then soaked in a saturated solution of boric acid. If the child appears thirsty plenty of water that has been boiled and cooled should be given rather than too much food, for water is as necessary to the child as it is to the adult in addition to the food. E.

Treatment of Spermatorrhea

Dr. G. M. Phillips, St. Louis (*Med. Rev.*, 1897), suggests that preparatory to the treatment of the above condition, be its existence dependent upon any cause whatever, sexual and urethral hygiene, when correctly directed, may be depended upon for successful assistance. By these two terms is meant the institution of those measures bringing the respective parts to a condition of repose; sunshine, good food and air, proper exercise, physical and mental, abstinence from alcohol, malt, wine, tobacco, and stimulants generally, are these indica-

tions. The treatment resolves itself, naturally and conveniently, first, into the adoption of those measures looking toward the prevention of such a condition; second, local therapeutic; third, real therapeutic; fourth, electric; fifth, hydrotherapeutic. Prominent in this first connection is education along proper lines. Under this heading also is included the removal of all influences, real or fancied, predisposing to neuroses of the sexual makeup. Strict continence, when the sexual organization has been substantially set to going, is often hurtful. Removal of the real offenders is likewise imperative; a small meatus should be enlarged; a stricture of the urethra divided; a long or uncomfortable prepuce disposed of; inflammatory conditions of all kinds abated; varicocele palliated or treated radically; hydrocele corrected; the kidneys should be investigated; the rectum explored and relieved of any condition capable of exciting reflex or other disturbing influences; the genital, urinary, and contiguous, or contributory areas should be thoroughly canvassed and divested of that which is at the time or which may become offensive to the genital centers. L.

Note on Sense-organs in Muscle, and on the Preservation of Muscle-spindles in Conditions of Extreme Muscular Atrophy, Following Section of the Motor Nerve

Victor Horsley contributes a short note upon this subject to *Brain* (Part LXXIX). His observations were made from transverse sections of the gastrocnemius, and in some cases the solei of cats and dogs in which the sciatic nerve had been divided, at varying periods, before the animal was killed. These periods varied from three days to one year. At the same time the author draws attention to the existence of Pacinian bodies which he found in the same muscles; and to the relative degree to which the gastrocnemius in the cat is composed of red and pale fibers mixed.

The muscle-spindles of the gastrocnemius of both the cat and the dog are, as a rule, so distended in the equatorial region with lymph that the bundles of muscle-fiber, nerve-fiber, and capillary occupy only about a third to a quarter of the area of the space as seen in transverse section. This proportionate volume of the spindle is not altered during the first few days of the atrophy, but as a rule by the seventh day there is apparently a shrinkage of the spindle, such shrinkage, be it remembered, being parallel to the general shrinkage which the atrophy of the muscle gradually undergoes as a whole.

At the same time the muscle-fibers are apparently wholly unaltered in character. Very exceptionally a muscle-spindle may be found in which no collapse or shrinkage of its cavity has occurred, and this even in the the most atrophied specimens.

In the cases examined the muscle-fibers lose their diameter, i. e., their volume, by simple atrophic shrinkage, the distance between the red and pale fibers becoming more defined, and the striation is preserved almost to the end. In addition to the loss of substance the particular experiments in the course of which these observations were made, seem to show that after a preliminary increase of metabolic activity there is a steady diminution, parallel with the well-known steady decrease in the force and increase in the duration of a contraction. However, in the most completely atrophied muscles, the author has always been able to obtain a very slight movement on direct excitation.

In 1883 Horsley showed that in the sheaths of nerve-trunks besides end-bulbs or tactile corpuscles there were also true Pacinian bodies. In the present article he reports having found them in the gastrocnemius muscle in the cat. In only one case the body (in this instance a double Pacinian body) lay close to one of the intermuscular septa of the strong aponeurotic fascia of the muscle, but in another case it was buried in the muscles between the bundles of fiber. These Pacinian bodies are ellipsoidal in transverse section, and have diameters of 104 and 144 micromillimeters at their thickest part, and present the ordinary well-known structure. The head of the core in one case at least is trifurcated. Whether in the midst of the totally degenerated muscle or in normal muscle these Pacinian bodies show no difference in structure, and do not exhibit any change, which seems to suggest their possessing a high nutritional efficiency.

U.

Safety Eye-glasses for Games

Accidents to the eyes occur from time to time owing to the breaking of spectacles or eyeglasses during the course of various games (hockey, etc.) or while shooting. All who play such games (*Brit. Med. Jour.*, Jan. 8, 1898) run a risk which the eyes share in common with the rest of the body; this risk can, of course, not be removed, except by wearing some form of more or less transparent shield, such as the wire-gauze goggles worn by stone-breakers. It is quite out of the question to expect ordinary players to adopt such a precaution, but much can be done to reduce the risk of the wearer of glasses to a level with that of the ordinary

player. The splintering of the glass is the special danger from spectacles. If they be made of some substance which will not break, or at least give a clean fracture, the danger, while not abolished, is very much diminished. Such a substance is found in Brazilian quartz or pebble. With this substance some experiments were carried out a few years ago by Major Verner, with the object of using it for the manufacture of glasses to protect the eyes from stray shot while shooting. The experiments were successful, so far that they showed that the quartz does not splinter on fracture. Glasses made of this material present, then, one of the desiderata. They have still to be made strong enough to resist the force of the impacts they are likely to be subjected to. This can be done in two ways—either by making the whole lens thicker than usual while retaining its required curvature, or by making it dome-shaped, and so regulating the curvatures of its anterior and posterior surfaces as to give the curvature required. Thus for a concave lens of 2 D the curvatures would be +10 and -12, and for a convex lens of the same power -10 and +17 respectively. The object of giving the dome-shape to the lens is of course to increase its strength. In the series of tests above referred to, a lens of 100 D radius on both surfaces 5-32 inch thick, stood the impact of No. 5 shot at 100 yards range. In making the lenses of this form 5-32 inch is therefore the minimum thickness allowed for spectacles to be used in shooting. This thickness would of course have to be varied to suit the exigences of particular games, as would the radius of curvature of the dome. G.

Bacteriological Diagnosis of Diphtheria—Difficulties When Pseudo-diphtheritic Bacilli Are Present

The *Med. Week* (No. 40, pp. 469-471, 1897) gives Prof. C. H. H. Spronk's researches and conclusions. We are dependent on the bacteriological examination for a diagnosis, yet its evident defect lies in the fact that there is no reliable criterion of differentiation between the bacillus of diphtheria and the pseudo-diphtheritic bacilli, these latter in most cases not being virulent to the guinea-pig, absorbing coloring reagents more actively, developing better on agar-agar, growing at 20° to 22° C., and leaving the broth alkaline, whereas Loeffler's virulent bacillus leaves the broth strongly acid. The exceptions which present the difficulties are certain pseudo-diphtheritic bacilli which strongly resemble the diphtheria bacillus but are not virulent; their true nature is discovered only by inoculation on animals. The question is, Are these last different from

diphtheria bacilli, or are they attenuated Loeffler's bacilli? The separatist school of bacteriologists holds that no one has yet succeeded in making non-virulent bacilli take on virulent properties, and that it is possible to detect minute differences between diphtheritic and pseudo-diphtheritic bacilli. Their opponents claim that the virulent may be made non-virulent, and that the non-virulent may be made virulent, and that the cultures cannot microscopically be distinguished.

Fränkel and the writer both showed experimentally that both virulent and non-virulent bacilli grew equally well on anti-diphtheritic serum. Furthermore, anti-diphtheritic serum injected into a guinea-pig will prevent the edema which appears in a control-animal not so injected when both are inoculated with the culture of the virulent Loeffler bacillus. The culture of the pseudo-diphtheritic bacilli will produce edema in both these animals under the same circumstances. This discovery converted Fränkel to the separatist school. The writer has hitherto failed to find in nature a single sample of a short bacillus, endowed with slight pathogenic action, which was non-refractory to the action of anti-diphtheritic serum, i. e., failed to produce edema in both animals in the experiment above indicated. The bacteriological diagnosis can give absolute certainty only after inoculation of the culture into an animal. From 1-2 to 1 c.c. of antidiphtheritic serum (active 1 to 100,000) is injected under the skin of the inner aspect of the thigh of a guinea-pig weighing 300 gme. Six hours later both this guinea-pig and a control receive 2 c.c. of the culture. If the culture is of the true diphtheria bacillus there will be edema in the control-animal alone, but if it is the pseudo-diphtheritic bacillus, the edema will be present in both.

Diphtheria is, therefore, always produced by a virulent micro-organism derived from another equally virulent one. The pseudo-diphtheritic bacilli, incapable of developing into the true diphtheritic variety, grow in the mouth as a favorable medium, whereas the true diphtheritic bacilli can live in this same medium only when they are virulent enough, readily perishing if their virulence is in any way weakened, virulence not being a fixed element.

Hence the writer concludes:

1. Diphtheria cannot be diagnosed with absolute certainty from naked-eye and microscopical examination of colonies grown on serum;
2. An animal must be inoculated with the microbe, except in times of epidemic;
3. When 2 c.c. of fresh culture does not

kill a guinea-pig of 300 gme., but only causes edema, the bacillus is pseudo-diphtheritic. Further confirmation of this is obtained by previous vaccination with anti-diphtheritic serum;

4. Bacilli in the mouth, of saprophytic character, however resembling diphtheria bacilli in appearance, if they do not answer the above tests, cannot give rise to diphtheria.

Finally, a very attenuated diphtheria bacillus cannot live in the human body. H.

Basedow's Disease

The histological examination of the thyroid and of the thymus is presented by Dr. M. Soupault in the *Bull. de la Société Anatom. de Paris*, Vol. II, 1897, p. 592. The case occurred in a young girl of 18, and was of eight months' duration. A partial thyroidectomy was practiced, and the patient died of acute asphyxiation.

The sections showed a hypergenesis with hypertrophy of the gland, resembling in many respects an adenoma of the stomach or other mucous membrane, and the author terms it a thyroid polyadenoma. There was marked hyperplasia of the secreting tissue with evidences of largely increased secretions. Whether this was primary, or secondary to the increased blood-supply the author could not decide. The specimens showed no dilatation of the vessels, nor were they increased in number, this would not be favorable to the hypothesis of an increased blood-supply at all events.

The thymus showed a similar hypertrophy and resembled in many respects the thymus of infancy. J.

Cheyne-Stokes Respiration Phenomena

Dr. N. S. Davis, Jr., of Chicago (*Gaillard's Med. Jour.*, Vol. LXVII, No. 5, p. 287), describes a case in detail, occurring in a man 73 years of age, in which all the accompanying rhythmic phenomena of pulse, eye, and mind were present. Dilatation of the heart, a slight aortic murmur, atheroma to a moderate extent of the peripheral arteries, and interstitial nephritis were present. Cheyne-Stokes respiration was not constant at first, the attacks appearing from time to time for a few hours or days. Even at the height of dyspnea the respiratory movements were not labored. Subsequently the characteristic respiration appeared in an aggravated form and persisted for almost a month, when death ensued. Dyspnea was at this time more intense, the pauses longer, the respiratory movements more shallow, and the eyes converged slightly. So soon as respiration was fairly established, he would resume a conversation without inter-

ruption of argument or break in the continuity of events that he might be describing. He was never cyanotic. In the rhythmically ascending and descending periods of respiration separated from one another by short pauses, the author refers to the fact that these should be clearly distinguished from irregular breathing accompanied by pauses. The exact nature of Cheyne-Stokes respiration is as yet unknown, many theoretical explanations being given. It is not always indicative of grave disease, for it occasionally occurs in health when sleep is unusually deep. When produced by drug-narcosis it is significant of serious poisoning. In renal, cerebral, and cardiac affections, it is always to be regarded as a grave complication, and as usually indicating approaching dissolution. It is least significant of gravity when it is most chronic. Occurring in connection with infectious and cardiac diseases, recovery frequently ensues. As to treatment, the best, unquestionably, is that which is applied to the causal maladies. In chronic cases, as good nutrition as possible should be maintained, by carefully regulating diet and correcting digestive disorders. Improved cerebral nutrition and increased sensitiveness to reflex and external influences might be expected to directly aid the respiratory trouble.

L.

A Case of Gonorrhea with Numerous Complications

Dr. Houze reports a case of gonorrhea (*Arch. méd. Belges*, No. 7, 1897) which was complicated with retention of the urine, cystitis, orchitis, epididymitis, circumscribed peritonitis and gonorrheal arthritis. The patient got well in three and a half months.

R.

The Radical Cure of Hydrocele by a New Ambulatory Method

J. N. Bartholomew discusses this subject in the *Indian Lancet*, Dec. 1, 1897. The treatment he has adopted and found useful is as follows: The skin of the entire scrotum is shaven and rendered aseptic, an incision a quarter of an inch in length is made in the most dependent portion of the scrotum down to the tunica vaginalis, being careful not to open the sac, which is dissected from the overlying fascia by some blunt instrument. This is done by inserting the instrument at the point of the incision into the cellular tissues, and sweeping it round the sac it is speedily separated down to the epididymis on either side. After this the sac is opened and the fluid allowed to escape. Then the flaccid walls

are easily drawn through the small incision and are divided close to the margin of the epididymis. The opening being in the most dependent portion of the scrotum drainage is provided, and the shrinking of the dartos makes the external wound small. After this the testicle is strapped with adhesive strips, beginning at the top of the hydrocele, making circular turns round the testicle, the same as for epididymitis.

The patient is allowed to go about immediately, and a cure can be expected in two weeks.

The advantages are its simplicity; no confinement of the patient; general anesthesia is not required; the dangers of hemorrhage and sepsis are reduced to minimum; and cure certain.

W.

A Case of Innocent Gonorrhea

The author, Dr. Aquila (*Deut. med. Zeit.*, XVIII, No. 43, p. 939), reports that he got an acute specific urethritis without any sexual intercourse, and without having ever suffered with gonorrhea. As he had at that time a great number of gonorrheal patients, and spent most of the time in bacteriological examinations of the discharge, he thinks that the infection took place by some of the virus sticking to the fingers. This case teaches us that though the patients often lie as to the extravenereal source of their infection, their stories may sometimes be true.

R.

Endotheliomata and Allied Tumors

Although it is scarcely justifiable, according to their general origin, to place the endotheliomata in an independent group of tumors, D. F. Harbitz (*Norsk. Magaz. f. Laegevid.*; ref. *Deut. med. Woch.*, 1897, Lit. Beilag., p. 121) believes they present sufficient peculiarities in their histological structure to warrant their distinction from the epithelial as well as from the genuine connective-tissue tumors. Therefore, he considers it advisable to classify them as an especial variety—as a subdivision of the connective-tissue tumors closely related to the sarcomata. He reports two cases, one of the peritoneum, the other of the spinal pia mater.

In the peritoneum there was a diffuse, tumor-like infiltration of a great part of the visceral peritoneum with secondary multiple strictures of the small intestine; on microscopical examination numerous, small, closely packed endothelial cells were observed in the lymph-spaces. Origin from an organ provided with epithelium could not be demonstrated. In the other case there existed an infiltration of the pia of the whole

spinal canal, partly extending over the floor of the fourth ventricle, and also infiltrating the cerebellum. These apparently resembled the angiomas, but they contained so much newly formed tissue from the endothelia of the lymph-spaces, that this tumor was also classed with the endotheliomas.

A.

Bacillus Pertussis (Kaplik)

Dr. Henry Kaplik (*Brit. Med. Jour.*, No. 1920, '97) succeeded in isolating a small bacillus from the expectoration of thirteen out of sixteen whooping-cough patients, which seems to be the exciting cause of this disease. It is anaërobic, motile, and grows luxuriantly upon fresh hydrocele fluid and agar. It measures 0.8 to 1.7 micromillimeters long, and 0.3 to 0.4 micromillimeters wide. It resembles somewhat the diphtheria bacillus, but is much finer and shorter. It stains with methylene-blue. Dr. Affanassjen, among others, corroborates the finding of Dr. Kaplik.

S.

Sarcoma in Children

Drs. Espine and Picot found that among 127 cases of malignant diseases in the young, seventy-seven were under 1 year of age, thirty-nine were 1 and 2 years, fifty between 2 and 3 years, forty-eight between 3 and 4 years. The kidneys and testicles were the organs most frequently affected, the kidneys were involved in 136 out of the 427 cases. Sarcoma was the malignant growth most frequently met with. It made up 57 per cent. of the whole number. Dr. Winceuroff (*Arch. f. Kinder.*, B. XXI, H. 1, 1897) adds to this number one case of multiple sarcoma in a boy twelve years old. The pancreas, pericardium, liver, kidney, peritoneum, and the lymphatics were involved. The disease ran its course in five weeks.

S.

The Blood-corpuscles in Diphtheria

Dr. John S. Billings, Jr. (*Ann. Rep. Health Dept.*, 1897), concludes as follows:

1. The red corpuscles of the blood in diphtheria undergo a diminution in number in cases of moderate severity and in severe cases. Regeneration is slow.

2. The leucocytes are increased in number in all but two classes of cases, exceptionally mild cases and exceptionally severe ones. As a rule, the amount of leucocytosis is directly proportionate to the degree of severity of the case. The leucocyte-curve shows no correspondence to the clinical course of the disease. The number of leucocytes often remains higher than normal for days after all inflammation has disappeared. The leucocytosis is similar in character to that seen in pneumonia and scarlet

fever, the increase of the leucocytes being in the so-called polynuclear forms.

3. The percentage of hemoglobin falls coincidentally with the number of the red blood-corpuscles, and to the same relative degree. But the regeneration of the hemoglobin takes place much more slowly than that of the red corpuscles.

4. In cases treated with antitoxin the diminution in the number of the red corpuscles is much less marked than in those cases treated without it; in a majority of the cases no such diminution takes place. The leucocytes are apparently unaffected by the antitoxin. The hemoglobin is also much less affected in the cases treated with antitoxin, thus confirming the statement as to the red corpuscles.

5. In healthy individuals injected with antitoxin, the red corpuscles show a very moderate reduction in number in about one-half of the cases. The hemoglobin is correspondingly affected. The leucocytes are apparently unaffected by the injections.

6. No peculiar characteristic changes in the morphology of the corpuscles were to be made out.

7. It is improbable that any information of prognostic importance is to be gained by examination of the blood in diphtheria.

8. The antitoxin treatment of diphtheria has no deleterious effects upon the blood-corpuscles. On the contrary, it seems to prevent degenerative changes which should otherwise be brought about.

S.

Antitoxin and Albuminuria

Prof. C. H. H. Spronck, *Jour. de Clin. et de Thérap. inf.* (No. 48, p. 955, 1897), established by experiments in 1889 that the rabbit's kidney is very sensitive to the toxin of diphtheria, whether subcutaneously or intravenously injected, causing albuminuria and oliguria, with the production of diphtheritic nephritis which the autopsy shows to be like that in man. The nephritis and albuminuria are not immediately produced, but only after from one to three days; its onset, however, is quickened by intravenous injection and increase in dose. If the dose is very small the albuminuria is transient. Therefore, in clinical observation, the state of the kidneys indicates the intensity of the disease.

Repeated experiments on rabbits further established the fact that antitoxin, given after injection of toxin had produced albuminuria, prolonged life to an extent varying with the times and quantities of antitoxin used. The antitoxin alone also gave slight albuminuria.

From the cases in which Sevestra and

Martin injected serum in children, they concluded that, in certain cases, the serum may favor the production of albuminuria of slight degree, and that, on the other hand, it can exert a favorable influence over a pre-existing albuminuria, but that this result is not constant, so that if a renal lesion is already established, we can only hope the serum will repair it.

Comparing these conclusions with the results of the writer's experiments on rabbits, it is fair to infer that if in some cases the serum seems to produce a slight albuminuria, it is because it reaches the urine from the injected serum, especially where an almost inappreciable change has already commenced in the kidney at the time of the serum-injection. If the experiments on rabbits above noted authorize the inference that the serum may act favorably on a pre-existing albuminuria, it also teaches that it can do so only on one of recent date. The fact that the favorable action is not constant further teaches that we cannot hope to see the serum repair a diphtheritic renal lesion of several days' growth. The injection of serum is indicated if the albuminuria is recent, or not definitely known, since it exercises no harmful influence on the progress of the renal lesion.

The recent researches of Daenitz, Goldscheider, and Flatau, and those of Kempner and Pollack, go so far as to demonstrate that antitoxins are capable of repairing certain cell-changes produced by the toxins of the tetanus bacillus and the *Bacillus botulinus* of Van Ermengen.

On the strength of this the author would like to claim that the renal cells are injured by the toxins only to a limited extent, so that the antitoxins are capable of neutralizing a part of the poison assimilated, by virtue of the affinity of the antitoxins for the toxins. H.

A Case of Renal Hemophilia

The renal variety of hemophilia is one of the rarest forms of the disease. Dr. Wm. J. Robinson reports a case in the *Med. News* (Vol. LXXI, No. 4, p. 112). The patient, a boy of 4, had been passing blood in his urine for about ten days; he was treated by general physicians without any apparent benefits. When the doctor saw the boy for the first time he seemed completely exsanguinated; he looked as if he was made out of spermaceti. The pulse was 140 per minute; temperature 97.9°F. An examination failed to reveal anything beyond a tenderness over the region of the left kidney. There was no history of traumatism. A few hours after the doctor's first visit the patient had another very severe hemorrhage, and

when the doctor came he was in collapse. A hypodermic of digitalis, camphor, and ether was administered, to which the boy responded well, but the oozing of blood from the point of insertion of the needle was quite uncontrollable. Various styptics proved unavailing. It took about three-quarters of an hour before a pledget of cotton saturated in equal parts of antipyrin and tincture of iron and a tight bandage finally stopped it. The doctor then knew that he had to deal with a case of hemophilia, and careful inquiries of the family history corroborated the diagnosis.

Tabes Dorsalis and Circulatory Disease

In the *Berl. klin. Woch.*, Aug. 30, 1897, Ruge and Hütter present a study of some 138 cases of tabes dorsalis, in which twelve cases, or 8.75 per cent., had valvular lesions, and nine, or 6.5 per cent., had aortic lesions. There was no difference with reference to sex, most of the circulatory disturbances became prominent after the spinal lesion had progressed. There would seem, in the authors' opinions, to be a distinct relationship to syphilis in both conditions. J.

Case of Chronic Werlhof's Disease— Morbid Conditions Removed in Eight Days

Jour. de Clin. et de Thérap. inf. (No. 49, 1897, p. 975, takes from *Bul. méd.* the record, by Drs. E. Apert and M. Rabé, of a case of nose-bleed which had continued six days in a boy of 14. A year previously he had bled frightfully on removal of adenoids for recurring epistaxis, and was reduced to great anemia, being compelled to remain quiet in bed for eight days, during which time purpuric spots first appeared on his body. These hemorrhagic spots have recurred many times during this interval without apparent cause, over arms, legs, and body, except the face. Epistaxis has occurred often during the course of a month, and the gums have bled easily. The child appears healthy. Examination of the right nostril reveals a sanious fungous ulceration at the anterior, inferior portion of the septum, surrounded by an area of inflammation. A similar but smaller ulcer occupies corresponding position on left side of septum. Treated with hot-water douches and cotton tampons.

There are small hemorrhagic points on the neck where the collar rubs, and others on the arms, and there are large typical blue spots on the legs. Bodily functions well performed. The finger pricked continues to bleed a long while. A study of the blood-coagulation was made in Hayem's

hematimeter which showed slow formation of the typical clot, long adherence of the clot to the edges, and slow and diminished exudation from it of the blood-serum. The red blood-cells numbered 6,662,000, the white 5,500.

The treatment was citric lemonade *ad libitum*, cress-juice, interdiction of violent and fatiguing exercises, and the imbibition of a much-diluted solution of chloride of calcium, 1 gme. a day, after the following formula:

Water 400 gme. (13 $\frac{1}{3}$ fl. oz.)
Chloride of Calcium..... 10 gme. (150 grn.)

A tablespoonful in a glass of water at the beginning of each meal.

In eight days he reported not having bled at nose nor presented new ecchymoses: the old spots were nearly gone. The finger when pricked bled only a dozen drops before stopping. The clot was rapidly formed, and equal in twenty-four hours to the former at the end of four days; it was not adherent and it floated in abundant serum. Red cells, 5,922,000; white, 5,000. H.

Constipation in Babies

For constipation occurring in babies during the first year and not relieved by regulation of the diet, Casson de la Carriere (*Med. Bul.*, Vol. XX, No. 1) recommends light massage of the abdomen with the palm of the hand well oiled. The movement should be made in a circle about the umbilicus, pressure being light, and exerted especially in the right iliac region. Each sitting should occupy not more than ten minutes, and should take place in the morning. For babies after the first year, massage may be made with the finger-tips over the course of the large intestine from right to left. L.

Barlow's Disease (Infantile Scurvy)

Jour. de Clin. et de Thérap. inf. (No. 2, p. 28, 1898) has the following from *Jahr. f. Kindheilk.*, by Koeppen:

Neither the clinical findings nor the anatomico-pathological findings permit any connection between rickets and Barlow's disease. While many authors have thought infantile scurvy a further exacerbation of rickets, yet more than half of scorbutic children have no rickets. Rather than consider the rachitic constitution as a favorable soil for scurvy, the author thinks rickets often follows scurvy, the latter being often unnoticed at the outset, where it is little marked.

The pathogenic theory of Barlow's disease, which the author defends, is that it is due to intestinal auto-infection based on the

fact that nearly all children who have this disease have chronic gastro-intestinal troubles, and especially constipation. This theory is supported by the fact that the disease is met with in bottle-babies more disposed than others to intestinal auto-intoxication, and that it is met with in the well-to-do classes as well as in the poor. The symptomatology, with predominance of hemorrhages, points to septic infection from the intestines. H.

The Melancholic Form of Typhoid Fever

Under the impression that infectious agents often play an important part in the production of mental diseases, Dr. Taty, *Lyon méd.* (No. 45, 1897) has made a special study of the exciting causes of the psychical disorders of the patients under his observation. He found one case of melancholia whose blood gave Vidal's reaction of typhoid fever. Judging from this case, the author attempts to demonstrate that typhoid may, at times, assume an atypical course, stimulating melancholia with self-intoxication or mental "alienation of a double form," and therefore urges upon the medical profession always to employ Vidal's test in cases of acute delirium, of stupor, melancholia, etc., especially when they are accompanied by gastro-intestinal disturbance. By doing so, many cases of atypical typhoid fever would be saved from the useless confinement in an insane asylum, and recover much more rapidly by treating the disease proper. S.

A Case of Pseudo-tubes Following Diphtheritic Infection on the Penis

Dr. J. W. Courtney reports in the *Atlantic Med. Weekly* (Vol. IX, p. 33, Jan. 15, 1898) an unusual case of grave nervous lesions following diphtheria on the penis. The patient was a man 47 years of age, with some family nervous history of an uncertain character. The patient had a syphilitic infection in his younger days, but no secondaries had developed. The present attack was due to infection, supposably in a water-closet, upon a non-specific abrasion of his penis; this began to swell and ulcerate, and later, according to the physician in attendance, took on the typical character of a diphtheritic ulcer, which sloughed off in a week, leaving a deep ulcer which subsequently healed; this was followed by another ulcer of the same type upon the terminal phalanx. This went through the same history as the other ulcer. Constitutional symptoms were present, but there was no sore throat.

About one month later the nervous symp-

toms appeared. The first symptom was pain in the limbs, and a slight unsteadiness in his gait, and gradual paresis of accommodation. Locomotion became more and more difficult, until the patient was practically confined to his bed. The bladder and rectum were not involved. The examination, a month later, two months after the first diphtheritic ulcer, showed marked ataxia, Romberg's symptom, no Argyll-Robertson pupil, no cranial nerve-palsy, left upper extremity normal, right grasp weak, and very marked inco-ordination present. Lower extremities were weak, the musculature flabby, the whole left extremity measuring nearly one-half inch less than the right. Knee-jerks were absent, there was no ankle-clonus, nor loss of sensation anywhere.

The diagnosis was post-diphtheritic neuritis, and the patient improved upon tonic treatment. J.

The Muscle-spindles in Pseudo-hypertrophic Paralysis

Dr. Albert S. Grünbaum publishes in *Brain* (Part LXXIX), the first note on the condition of the muscle-spindles in this disease.

In 1894 Sherrington gave the first account of the structure and functions of the muscle-spindles, and recently Batten has given the results of several examinations of different nervous diseases, finding changes in the muscle-spindles only in tabes.

Grünbaum's material was obtained six hours after death, on a cold winter's day, and carefully preserved, but unfortunately, for the most part not histologically until over two years later.

In the vascular system there was considerable thickening of the smaller arteries, due, in part, apparently, to hypertrophy of the muscular layer.

In the central nervous system there was marked dilation of the perivascular lymphatics, and also of the blood-vessels, the latter often containing a large number of leucocytes. In the spinal cord were several small hemorrhages.

In the peripheral nervous system there was degeneration of some fibers of the smaller nerves.

In the muscular system, as a whole, the changes were of the ordinary character. In the gastrocnemius very few muscle-fibers remained; the rest were entirely replaced by fat.

In other muscles many fibers were atrophied, but some were distinctly hypertrophied. Most of them showed signs of alteration in the surrounding connective tissue, varying from a proliferation of

nuclei of the sarcolemma to a deposit of fibrous tissue around the fiber. Several fibers had a distinctly hyaline appearance, and a few showed vacuolation.

The muscle-spindles were for the most part unaffected, but in a few others there was a diminution in size of an intrafusal fiber with a deposit of hyaline material around. The nerve-fibers supplying them were apparently healthy. In some muscles no spindles were found in the sections examined.

Sherrington has shown that division of the nerve supplying a muscle will not produce atrophy or degeneration of the muscle-fiber within the spindle. The muscle itself may be totally atrophied, and every nerve going to it has disappeared, yet the muscle-fibers within the spindle remain intact; the muscle-spindles are all that is left of the original muscle.

It would therefore appear highly probable that any pathological alteration in such fibers is primary, and consequently also primary in the other ordinary fibers, although commencing much earlier in them. Therefore, so far as it goes, Grünbaum's observation supports the now generally accepted theory of the intra-muscular origin of the disease. U.

Carcinoma of the Heart Secondary to Carcinoma of the Stomach

Not more than fifty to sixty cases of carcinoma of the heart had been reported up to 1895, when Laisney published a monograph upon the subject. In the *Bul. de la Soc. Anat. de Paris*, Vol. XI, p. 877, 1897, Rabé reports an interesting case, following a primary carcinoma of the stomach. A topographical and microscopical study showed that the infection took place by means of the lymph-channels rather than by the blood. The lymphatics of the posterior interventricular fossa being the ones involved. The infecting cell had probably traversed the diaphragm and inoculated the visceral pericardium. J.

Consideration of Keloid from a Pathological Standpoint

F. D. Smythe, of Memphis (*Med. Monthly*, Memphis, Vol. XVII, No. 10, p. 446), refers to the fact that, histologically speaking, keloid stands midway between scar-tissue and sarcoma, and like the fibroid tumor, is much more prevalent in the negro race. The author has never seen a case of keloid in other than the negro. In Vienna but one case of keloid was reported out of a dermatological clinic aggregating 23,944 cases. So slight an injury is required in subjects that are predisposed to keloid, es-

pecially negroes, that it is a cause of error made by conscientious observers in reporting cases. The merest abrasion, an eruption, or eczema is a source of sufficient irritation to cause the hyperplastic keloid process. The most extreme cases have followed extensive scars the result of severe burns. The breast is a favorite seat of this trouble, as is also the lobule of the ear following perforation for earrings. In the diagnosis of this disease it commences usually as a small elevated nodule, gradually enlarging, with a tendency to an elongated oval form, with irregular radiations, well-defined projections, resembling a crab. When it becomes inflamed it occasionally presents a semblance of malignancy. Removal of the growth is generally followed by recurrence, with rapid increase in size.

L.

A Rapidly Growing Epithelioma of the Face

Douglass W. Montgomery, M. D., in the *Pac. Rec.*, January 15, 1898, gives the history of an epithelioma on the face which had grown with phenomenal speed. It was of the variety described by Hutchinson as "Crateriform."

After the diagnosis was made the growth was curetted and cauterized with crystals of pure chromic acid. In closing he says the necessity of curetting before cauterizing such growths is well illustrated in the case described. Before the patient had consulted him the epithelioma had been treated with a cauterizing paste which seemed to accelerate its growth. The explanation was clear; the caustic was placed on top of pathological material, through which it had to eat before the healthy skin was reached. This action simply irritated the mass and consequently accelerated its growth.

W.

The Treatment of Prurigo

According to Dr. P. Frank (*Med. Sent.*, Jan., 1898) prurigo is but slightly amenable to constitutional remedies; our principal reliance, therefore, must be upon local measures. The best applications for relief are creosote ointment or lotion, weak solution of corrosive sublimate, tincture and watery solution of opium, tar ointment, especially that of juniper-tar, ointment of opium and camphor, the diluted nitrate of mercury ointment, ointment of potassium cyanide, lotion of hydrocyanic acid, ammonium acetate, sodium chloride, sulphuret of potash, etc., the Turkish and the common hot-water bath.

Internal remedies have little direct efficacy. The first object must be to correct any existing disorder, whether of a particu-

lar organ or of the system. Hence the state of the stomach, of the bowels, and of the liver should receive attention, and the menstrual condition should not be overlooked. A strict milk diet would be very suitable as a substitute for meats in plethoric individuals. Tonics may be given with a view to improving the general health, cod-liver oil, plain or with iron, extract of malt, iodine, phosphorus, and the like will be suitable for the purpose. Arsenic exerts but little, if any, influence; carbolic acid is claimed to be beneficial, but is not free from danger and not very pleasant to take. O. Simon and Pick claim they have received beneficial results from the subcutaneous injection of pilocarpin; this drug produces free perspiration, a feature greatly desired in prurigo, but great care is required in its use, as it often produces alarming signs of general depression. Among the other drugs more or less used, are tincture aconite, conium, belladonna, ergotin, tincture cannabis indica, and small doses of antipyrin are said to relieve the itching. A great deal of good judgment is required in treating an inveterate case, and after trying every known remedy and measure, the physician may be baffled in his efforts to cure this peculiar affection.

A Clinical Re-examination of the Motor Symptoms of Chorea

Mitchell and Rhein (*Phila. Med. Jour.*, Jan. 22, 1898), in a study of the above, attempt to elaborate more fully the descriptions of the choreiform movements. A series of thirty cases is cited descriptive of four different types of movement, and one case illustrating an admixture of types. In the first type the movements during periods of muscular inaction are continuous. The hands lying in the lap of the patient are in constant motion. When the patient, however, raises a glass of water to his mouth or performs any act requiring a like delicate muscular effort, there is witnessed an entire disappearance of the movements, lasting throughout the muscular effort. This appears to be a phenomenon quite beyond the influence of the will, and suggests that inhibition, for the time, is increased. In a second type there is a continuous clonic contraction of the affected muscles during rest, while every attempt to perform muscular acts is attended with a surprising increase in the violence of the jerking, apparently independent of and beyond volitional control. It is impossible for one suffering from this variety of the malady to complete satisfactorily any voluntary muscular act. This condition suggests, contrary to that presented by the first type of move-

ments, a lessened inhibition, manifested during willed muscular efforts, this being the usual type described. A third, and the rarest type, is that which becomes evident only on attempts to perform a muscular act. The hands at rest move, if at all, only slightly, and at rare intervals; but on attempting to use them the twitchings become sufficiently active to prevent or greatly to interfere with the performance of the act. The fourth type is illustrated in a small number of cases, in which the movements, continuous during rest, are but slightly altered by the tests employed. It might be claimed that the cases illustrative of the third type were only in an incipient stage of development, when such a condition might be expected; but in the two cases cited the movements which took place upon applying the tests were so marked as to clearly demonstrate, to the satisfaction of the authors, that the disease was fully developed. In the case in which two types were observed, appearing at different stages of the disease, the authors conclude that there are:

1. Cases of chorea which show some at one stage, some throughout their course, an absence of movement during rest, requiring muscular action to develop what may be either mild or severe choreiform movements.

2. Cases in which the movements are continuous during rest, but become greatly increased on intentional effort.

3. Cases with severe choreiform movements, which disappear entirely when muscular acts are performed.

4. In some cases the movements seem to be unaltered by voluntary muscular efforts.

5. Cases which present during their course at different times more than one of the types described. There can be little doubt, therefore, that Sydenham's chorea is a disorder, the seat of which is in the motor areas of the cerebrum. L.

A Contribution to the Etiology of Congenital Ichthyosis—Report of Case with Absence of the Thyroid

At the last meeting of the American Dermatological Association, Dr. James M. Winfield read a paper with the above title, which was published in the *Jour. of Cut. and Gen.-Ur. Dis.* (New York, November, 1897). He stated that the scarcity of reports of ichthyosis congenita with post-mortem findings had led him to the choice of his subject.

The history of the case was as follows: Parents physically normal. Nothing to indicate the occurrence of ichthyosis in any of their ancestors. The mother (aged 27) has been pregnant seven times. The first two labors were normal, and resulted in

healthy children. The third resulted in a miscarriage. Fourth normal. The fifth labor occurred at about the eighth month, resulting in an ichthyotic infant. Sixth labor normal. After her seventh pregnancy she was delivered at term of an ichthyotic monster, the subject of the report.

The body was enveloped in what appeared to be a thick coating of vernix caseosa, which, on removal, left the skin red and shiny. If no lubricating protective was used the whole cutaneous surface soon became scaly and fissured. When Dr. Winfield first saw the child, the whole body was covered with thick reddish-brown epidermic plates, which were larger and more marked over the extensor surfaces. Some of them were from a sixteenth to a tenth of an inch in thickness, and a half to two inches in diameter. Between the plates were fissures of varying depths. Movement of the limbs produced cracks about the flexures of the joints, which extended deeply into the underlying tissues.

On autopsy, eight hours after death, the body was covered with large, fatty, epidermal scales. Examination of the neck showed complete absence of the thyroid. The horny layer of the skin was considerably thickened. The sweat and sebaceous follicles were present, the rete and subcutaneous areolar tissue presented in certain areas bodies resembling in every respect micrococci, more common in the neighborhood of the blood-vessels, and apparently confined to lymph-channels, except in a few areas of the subcutaneous areolar tissue.

The absence of the thyroid is an important etiological factor, as its influence on the nutrition of the skin is an established fact, evidenced by the occurrence of various dermatoses when this body is atrophied or diseased. Administration of thyroid extract has exerted a beneficial influence on skin-affections where hyperkeratinization and thickening are prominent features. In this case it is fair to conclude that the absence of this body had some marked effect on the nutrition of the skin and the development of the cutaneous affection.

The occurrence of micro-organisms in the lymph-spaces brings up the question whether this and similar cases are types of true ichthyosis, or a variety of dermatitis. If these micro-organisms were the cause of this excessive plate-formation, it is possible that the term ichthyosis sebace is the correct one, for a bacterial irritation could easily produce a universal seborrhea.

As thyroid extract has an inhibitory action upon the growth of bacteria, it is probable that the normal thyroid has an inhibitory effect on various cutaneous bacteria.

The absence of the thyroid in this case would cause peculiar liability to such infection.

There is every reason to believe that the bacteria found in the specimens were the result of intra-uterine infection, as after birth every precaution was taken to keep the skin in a perfectly healthy aseptic condition.

W.

Apoplexy in the Course of Whooping-cough

Dr. Theodor mentions two cases of apoplexy in the course of pertussis (*Wiener klin. Rund.*, XI, No. 47, p. 771). One case was in a boy of 8, who in the fifth week of the disease, fell after a severe attack of coughing, to the floor, as if struck by lightning. He remained unconscious for several hours; he regained consciousness on the next day, but his right side was paralyzed. In three to four weeks convalescence commenced, and he finally fully recovered. The second case was in a boy of 5, and the features of the attack and the course of the paralysis were similar to those of the first case. The cause the author ascribes to a rupture of one of the branches of the anterior or middle cerebral arteries, which are easily exposed to changes in the blood-pressure taking place in the internal carotid.

R.

Microscopic Examination of Conjunctival Secretions

Dr. Augieras (*Jour. of Eye, Ear, and Throat Dis.*, January, 1898) has investigated the conjunctival secretions microscopically from a clinical standpoint, and from his studies he formulates as follows:

1. Microscopic examination, after staining, of the conjunctival secretion, is useful for the diagnosis of affections of the conjunctiva and cornea.

2. The presence of microbes is the rule in catarrhal conjunctivitis.

3. It is the exception in eczematous conjunctivitis.

4. In the conjunctival catarrh of the neonatus we find most frequently cocci and diplococci; in that of the adult, notably in chronic cases and acute attacks of chronic cases, we find most often the thick double bacillus.

5. Fibrinous appearance of the pus indicates an eczematous condition of the mucous membrane.

6. Eczematous secretions seem to be void of infectious qualities and unfavorable to the development of micro-organisms. In a word, they are bactericidal.

7. Absence of microbes from the secretion and fibrinous character of the pus are

found also in severe ulcerous kerato-conjunctivitis of eczematous nature.

8. One sees in the pus of certain cases of infectious ulcer of the cornea small thin bacilli, deeply stained by methyl-violet, which are also found in the pus of certain dacryocystitis.

9. Although it has not been absolutely, positively demonstrated that eczematous affections of the eye have an exclusively diathetic origin, it is very improbable that they have as a cause a local infection of the conjunctiva and cornea.

G.

Holocaine in Oto-laryngology

Dr. E. Coosemans, in *Rev. hebdomadaire de Laryng., d'Otol. et de Rhin.* (No. 50, Dec. 11, 1897, pp. 1473-1488), gives a thorough analysis of the relative values of cocaine and holocaine in diseases of the ear and larynx, detailing the cases. The following summary is interesting: for oto-laryngology holocaine is a perfect local anesthetic, having the following advantages over the universally used cocaine:

1. Cost of holocaine is about one-fifth that of cocaine. It is used in 1-per-cent. solutions, while cocaine is used in 5- to 20-per-cent.

2. Holocaine does not sting like cocaine.

3. Holocaine has very little of the intense bitterness of cocaine.

4. Holocaine causes no nausea, sense of constriction or of a foreign body in the larynx. It causes no cerebral excitement, all of which cocaine produces.

5. It does not contract the vessels, nor whiten nor reduce the tissues, an advantage in cauterizations.

6. It never causes signs of general intoxication.

7. The solution is fixed, antiseptic, and does not need sterilization.

Over eucaine it has the advantage in price, strength of solution for anesthesia, and absence of sting.

H.

Etiology of Chorea

In his doctorates (*Thèse de Paris*, 1897) Legay has given an extended statistical study relative to the origin of chorea.

From his studies he infers that in the vast majority of cases there is a family neuropathic taint, and that the exciting cause is some infectious disease. Prominent among such diseases is rheumatism, which contributes the majority of cases. Then follow measles, scarlet fever, typhoid, influenza, tuberculosis, and varicella. Some cases followed an attack of furunculosis. Rarely does the disease originate without some one of these exciting causes.

J.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

A Simple Operation for the Cure of Housemaid's Knee

Dr. P. Hoffman, of St. Louis (*Med. Rev.*, Jan. 1, 1898), offers a simple and efficient method of dealing with long-standing non-purulent collections of fluid in the pre-patellar and other bursæ. The operation consists of withdrawing the fluid from the distended bursa, scarifying the interior of its walls and applying pressure to bring them in contact, so as to allow of their union and obliteration of the cavity. In applying pressure the bandages should be removed as often as they become loose. The author claims the following advantages from this operation: It takes but little time; requires no anesthetic; sutures are not needed; being subcutaneous, there is but little risk of infection; the patient can walk about with but little inconvenience and attend to any duties immediately after the operation. The author states that in two cases failures have occurred, and therefore declares that the scarification should be thorough, evacuation of the fluid complete, and compression quite firm to gain success in all cases.

L.

Researches on Sympathetic Ophthalmia

A. Angelucci, acting on a hint given by von Zehender as to the necessity of an anatomical and bacteriological research to obtain more light on the sympathetic condition, decided to publish his researches in this direction in the following cases:

1. Sympathizing eye.—Cocci in the aqueous humor obtained during iridectomy, also in the portion of iris excised. Cultures positive.

2. Sympathizing eye (Iritis sympathetica).—Monococci and diplococci in the portion of iris removed. Nothing in the enucleated stump of the affected eye.

3. Sympathizing eye.—Numerous micro-organisms in the perivascular spaces of the excised iris-affected eye; numerous cocci in the sheaths of the optic nerve and in the choroid, especially near the vessels.

4. Affected eye.—Bacteriological examination negative.

5. Affected eye.—Bacteriological cultures negative.

6. Same results as in 4 and 5.

7. Affected eye.—Enucleated bulbs negative; cultures sterile.

8. Affected eye.—Cultures made with the

liquids contained in the cavity of the vitreous of the enucleated eye gave colonies of staphylococci and streptococci.

In 6, 7, and 8 the other eye showed simple sympathetic irritation.

9. Traumatic irido-cyclitis without sympathetic symptoms.—Microscopic examination negative; cultures positive.

10. Like the preceding.—Microscopical examination negative.

11. Spontaneous pan-ophthalmitis.—Microscopical examination negative.

12. Irido-cyclitis with hypopyon. Cultures made with the vitreous humor of the enucleated bulb gave place to the development of colonies of staphylococci and streptococci.

Results of experiments:

1. The contents of affected eyes injected into a rabbit's eye engender there purulent choroditis which in ten days abated. Numerous micro-organisms are then found in the intraocular textures and in the papilla of the optic nerve, nothing in the sheaths and in the trunk of the nerve, nothing in the opposite eye.

2. Injection of cultures taken from the vitreous of an affected eye develops in inoculated eyes a form of suppurative choroido-retinitis. Bacteria are found in the sheaths of the optic nerve on the inoculated side and a hyperemia of the nerve as far as the chiasm.

3. Inspection of cultures of the micro-organisms contained in the aqueous humor of the sympathizing eye provokes uveitis and purulent retinitis. The injected bulbs, the sheaths of their optic nerves and the subvagal spaces contain micro-organisms which are seen in one case as far as the vicinity of the optic foramen. In another case a transient and slight hyperemia is seen in the papilla of the opposite side.

4. Injection of very virulent micro-organisms into the vitreous body of the rabbit produces death after twenty hours. We find numerous cocci in the injected bulb as well as in the subvagal space, the sheaths, the optic nerve, and the retro-bulbar textures of the injected side. We find some also in the sheaths of the chiasm and in the subvagal space as far as the papilla of the opposite side.

In two very interesting cases the opposite eyes underwent a suppurating uveitis and atrophied. Three months later it was no longer possible to find the inoculated bacteria in the atrophied bulbs, nor elsewhere. In another case, the bacteria inoculated into the right eye of a horse were absent in the corresponding subvagal space in the chiasm and optic nerve of the opposite side, whilst they existed in the tissues of the right

orbit and among the phlebitic exudates of the sheaths of the right side.

From the researches and experiments above given the author concludes that micro-organisms seated in the anterior uveal tract of sympathizing eyes are identical with those which we find in the eye primarily affected, and it is to them consequently that the sympathetic process is due. Irido-choroiditis and papillo-retinitis, seen as expression of a sympathetic process in man, are due to microbes. The absence of bacteria in the affected eye is not sufficient to exclude the mycotic and migratory nature of the sympathetic process. The author believes with Gifford that the infection follows the course of the blood-vessels in transmitting itself from the affected eye to the base of the brain. The idea that when the sympathetic phenomena are limited in the sympathizing eye to irritative symptoms, it is a case of simple reflex irritation, has no more scientific value than a supposition.

H.

Submucous Hemorrhage of the Vocal Cords

At the nineteenth annual congress of the American Laryngological Association Dr. Langmaid reported five cases of submucous hemorrhage of the vocal cords (*N. Y. Med. Jour.*, Vol. LXVI, No. 9).

The situation of the extravasation was in every case at the junction of the anterior with the middle third of the cord. In only one case was the hemorrhage diffused, but, with this exception, it consisted of a globule of blood underneath the delicate mucous membrane.

This red disc was as well defined as is the globule of air in the mechanic's spirit-level—in fact, that appearance and its apparent movement during phonation made the comparison inevitable.

In every case the cause of the hemorrhage was vocal strain, long-continued or sudden, where there had undoubtedly been a previous catarrhal condition. The occurrence in every case was marked by sudden vocal inability. All the patients were singers except one, and he was an actor. Two of the patients were males; their ages varied from 20 to 60 years, but most of them were under 35 years of age. The impairment of the voice consisted in hoarseness and, in singers, in limitation of register in the upper notes.

The cause of the lesion is, in the author's opinion, as follows:

In consequence of a laming of the vocal muscles from a catarrhal chondritis much greater force is required than is natural to bring the glottis into sounding position.

This results in congestion, even to the extent of rupture of a blood-vessel.

In none of the cases was there hemoptysis. Recovery was perfect in every case. Treatment consists in absolute rest of the voice, spraying with menthol, use of astringents. R.

The Surgery of Cerebral Tumors

Among the dangers and complications which attend operations on the brain, Prof. Bergman (International Congress at Moscow) enumerates the following:

1. Hemorrhage—Avoidable.
2. Septic infection—Avoidable.
3. Shock—In seventy-five cases death resulted from this; either during or soon after the operation, in fourteen.
4. Epilepsy—Inasmuch as the operation necessarily entails the formation of a scar, involving the cortex of the brain, it is evident that a local epilepsy may follow upon an operation for cerebral tumor, just as it may do on a scar of accidental origin.
5. Hernia cerebri—In many cases it may be impossible to prevent this complication (which may result in death), either by the most skillful replacement of the flap of bone elevated at the operation, or by relieving the intracranial pressure by tapping the lateral ventricle.
6. Hemiplegia—A frequent complication. S.

Hernia of the Bladder

Dr. Friedrich Brunner (*Deutsch. Ztschr. f. Chir.*, Leipzig, 1898, Vol. XLVII, pp. 121-186) defines hernia of the bladder as used in his article, as a protrusion of a portion of the vesicle-wall, with or without a peritoneal covering, through one of the usual hernia-openings, the most frequent exit being through the femoral or inguinal canal. According as the portion of the bladder forming the hernia is covered with the peritoneum or not, are distinguished three different varieties: 1. Extraperitoneal, entirely without peritoneum; 2. Paraperitoneal, partially covered with peritoneum; and 3. Intraperitoneal, completely covered with peritoneum. The most common form is paraperitoneal. Various displacements and changes in shape are of necessity present in all except the very small cystoceles, and sometimes the bladder is found completely turned around. In inguinal ruptures the bladder lies as a rule behind, and median from the other contents of the sack and in femoral it still lies median from the rest of the hernia, but is slightly more anterior than in the inguinal variety. The amount of the bladder contained in the cyst-

tocele varies from the smallest diverticulum to almost the whole of the organ, and at times the prostate, ureters, or urachus may be present. Very often the protruded portion of the bladder is covered by a layer of fat which is sometimes of a peculiar color and consistency. Besides the variety of cystocele occurring spontaneously there is an artificial form sometimes produced by operative procedures.

Etiology.—Hernia of the bladder occurs in men three times to where it occurs once in women. The average of the patient is 49 1-4 years, though the affection has been observed both in very young and very old. As regards its proportionate occurrence with the ordinary forms of hernia, we find that out of 1841 cases of hernia operated upon by various surgeons, only sixteen contained the bladder or a portion of it. The hernia is almost always acquired and is not congenital. The conditions necessary for the production of hernia are:

1. Frequent and lasting overfilling of the bladder.

2. Weak wall, with a loss of contractility of the same.

3. Weak and pliable hernia-openings.

The direct causes are; abdominal pressure when the bladder is full, accumulation of fat in the prevesical space, traction from a pre-existing ordinary hernia-sac, and the sinking of a weak and flabby bladder-wall covered with peritoneum into an old hernia.

Symptomatology.—Cystoceles are divided into two great classes, the active, in which more or less acute symptoms are present, and the latent, in which no especial symptoms manifest themselves. The cardinal symptom of hernia of the bladder is the presence of a tumor at one of the hernial openings, the size of which is changed by the act of micturition. The following complications are sometimes met with, the formation of stones with resulting fistula; strangulation, with the ordinary inflammatory changes, and occasionally complete separation of the protruded portion of the bladder. Sometimes the ureters are incarcerated, and then hydronephrosis and uremia may result.

Diagnosis should be accomplished by taking into consideration the presence of existing causes, such as proper age, difficulty in passing urine, tumor in the pelvis, and pregnancy, by the presence of the cardinal symptom, by passing an instrument into the bladder and feeling for it in the sac, and by the injections of fluids per urethram. The differential diagnosis is to be made between hydrocele, cold abscesses, and a collection of fluid in an ordinary hernia. It

is very important that in a herniotomy or a radical operation the existence of a cystocele is not overlooked. And if any suspicion arises in the mind of the surgeon, the injection of water and other methods should be resorted to before dissecting up the sac. Also even extending the incision up into the abdominal cavity or cutting directly into the suspected tissues is justifiable if necessary to clear up the diagnosis. Hernia of the bladder has caused more errors of diagnosis than almost any other branch of surgery.

Prognosis.—In itself this is not so bad as might be supposed. A great many cases die from uremia, etc., but here the uremia comes from the same causes as produced the hernia, namely, enlarged prostate or stricture of the urethra; hence the uremia is simply an accompanying symptom and is not dependent for its existence upon the presence of the hernia. Stone of the bladder may, however, be directly caused by the stagnation of the urine in a diverticulum. After operation there is danger of fistuliformation, but these fistulæ have a distinct tendency to heal spontaneously, and except in case of stone, stricture of the urethra, or tuberculosis, they almost always do so.

Treatment.—Operation alone can effect a cure of hernia of the bladder. Before proceeding with the operation a careful study should be made to ascertain the relative position of the prostate and ureters. In operating the hernia is opened and the bladder directly approached, and when possible immediately replaced within the abdominal cavity. In some cases in order to do this it may be first necessary to resect a portion of the bladder-wall. If the hernia is small this mode of procedure is comparatively easy, but if it is large, or if it is of the paraperitoneal variety, a great deal of difficulty may be encountered. In cases of wound of the bladder-wall, either by operation or by traumatism, proper precautions should be taken against infection of the abdominal cavity, and the bladder united by a double row of catgut sutures. Where fistulæ result no further operation should be resorted to, because of the tendency of these fistulæ to heal spontaneously. T.

Contrecoup; Its Relation to Injuries of the Head

B. H. Hartwell (*Bost. Med. and Surg. Jour.*, Jan. 6, 1898) suggests the probability of the skull being but seldom fractured by force applied from the opposite side of the head, except in those cases of fracture of the base from blows upon the vertex, a large proportion of these being from radiation and

not contrecoup. The character and extent of these injuries is so influenced by the nature of the blow, its rapidity, the instrument used, the position of the body and head, the variation in the density and thickness of the bone in different individuals, that no rule can be formulated as to the amount of injury done by a given blow. Injuries to the brain, however, are much more frequent from contrecoup. Cases coming under one's notice, in which the local lesion is small in comparison to the brain-injury, and in the absence of cerebral symptoms have been treated by the medical attendant as simple contusion, are of great interest to medical observers, and in the medico-legal bearing are of great importance. It is not difficult to understand how a blow upon a thickened portion of the skull, in being disseminated over the head, should fracture the bone on the opposite side, where the resistance is less. That a blow upon one part of the head should injure the brain at or near the opposite side without injury to the skull, either at the site of the blow or the brain-lesion, is not readily understood. There is abundant proof that the skull has a certain amount of elasticity. Outside of medico-legal questions, if an operation is to be performed, the side to be opened is to be determined by cerebral localization rather than by external evidence of injury. The phenomena of concussion may be understood and dissemination of cerebral contusion explained by anatomical points connected with the extension of the cerebro-spinal fluid about the brain. Contrecoup is a factor in the causation of death in certain cases, and is to be taken into consideration in all injuries of the head. L.

Liberation of the Ring-finger in Musicians by Dividing the Accessory Tendon of the Extensor Communis Digitorum Muscle

Dr. W. S. Forbes read a paper on this subject before the Philadelphia Medical Society (reported in the *Phila. Polycl.*, Vol. VII, No. 6).

The difficulty of raising the ring-finger when the middle and little fingers are partially flexed, as in holding notes upon the piano, is well known, and it requires months of practice before the pianist can train the finger so that he may strike the keys properly.

This operation suggested by Dr. Forbes is not a new one, but he is the first to record it, having made his original experimental operation in 1857, since which time he has done the operation 466 times, each operation resulting advantageously.

The operation is simple and, under anti-

septic precautions, without danger. It may be done either subcutaneously or through an open incision, and under cocaine-anesthesia.

The author's method is to have the patient strongly flex the fingers, as in making a fist. By this action the two accessory tendons are brought down to the very angle made by the first row of phalanges with the metacarpal bones, and are then made tense.

This movement of the tendons toward the knuckle can be felt by the surgeon, and it can often be seen. A small incision is then made with a bistoury, and, with the cutting edge of the knife held outward, the knife is carried beneath the restricting tendon, and external to the sheath encasing the framework of the hand. The tendon is then readily divided, and the bistoury is withdrawn. A little flexible collodium is then placed over the wound. Union takes place by first intention, no scar resulting. U.

Removal of an Enormous Mesenteric Tumor and Eight Feet of Intestine

Dr. Shepherd reports the following case (*Montreal Med. Jour.*, Vol. XXVI, No. 6, p. 590): The patient, a healthy-looking man of 28, had noticed that for the last year his abdomen was getting very large and prominent, otherwise he had no subjective symptoms; bowels perfectly regular, urine normal—in fact, he had never been ill in his life. On examination, a smooth, hard, movable tumor could be palpated, filling the entire abdominal cavity, from the ensiform cartilage to the pubes. The tumor was thought to be a retroperitoneal lipoma, and operation was advised. An incision was made into the abdominal cavity, and the tumor was quickly reached. Enucleation was thought feasible, and the incision was extended for some distance below the umbilicus. There were firm adhesions both over the anterior and lateral surfaces of the growth. After separating these the tumor was delivered from the abdomen, and then it became plain that it grew from the mesentery, and had some 3 feet of small intestine adherent to it. Above, the tumor was closely attached to the transverse colon, and beneath this attachment a great number of large mesenteric vessels entered it. It was now seen that at least 3 feet of intestine would have to be removed, and perhaps more. There was nothing to do but to go on with the operation, for certainly the tumor could not be returned. The tumor was so intimately blended with its mesenteric covering that, owing to the excessive hemorrhage, enucleation had to be abandoned. After the tying of numberless ligatures the tumor was freed, the intestines in-

volved in its lower part cut away, and the mass with the three feet of ileum lifted out of the abdomen. After removing the tumor, two ends of bowel remained, each end having over two feet absolutely without any mesenteric blood-supply. There was nothing to be done but to remove these portions of the bowel also. The ends were then brought together by a continuous suture of fine silk through the mucous membrane, and then by a continuous Lembert suture through the peritoneum and peritoneal tissue. The mesentery was closed with continuous Lembert sutures. During the operation the patient had been getting weak from loss of blood, and his pulse was hardly perceptible, but two quarts of sterilized saline solution injected into the basilic vein brought up the pulse very satisfactorily. Convalescence was rather uneventful, and seven months after the operation the patient was perfectly well, and had normal stools. The only other case on record where a larger portion of intestine had been successfully removed is that by Ruggi, who removed eleven feet of intestine from a boy. [See the report in A. M.-S. BULLETIN, 1897, page 252.]

R.

Seminal Vesiculitis and Prostatitis

Dr. Geo. K. Swinburne (*Jour. Cut. and Gen.-Urin. Dis.*, 1898, CLXXXVI, 119) says that physicians have not recognized the importance of vesiculitis and prostatitis occurring in cases of chronic gonorrhea, and he believes that these conditions will be found in fully 35 per cent. of such cases. He then outlines the history and treatment of three cases which had come under his care, and gives the following conclusions:

1. We find a condition of the prostate and seminal vesicles in patients who have never had gonorrhea, which seems to be of a catarrhal nature, which may or may not give rise to symptoms. These symptoms, if present, are apt to be neurasthenic in character; they are benefited by local massage.

2. In chronic urethritis and at the end of prolonged urethritis, or where the posterior urethra has become invaded, the seminal vesicle and prostate should always be examined.

3. Where epididymitis has occurred, seminal vesiculitis is very apt to exist also. This, however, may clear up spontaneously.

4. Tubercular processes should, if possible, be excluded, for massage is apt to render their condition worse.

5. Where live spermatozoa are found by stripping after the urine has stood for some time, it is a good thing that the mucous membrane of the seminal vesicles secretes

the proper fluid for preserving the life of the spermatozoa.

6. Stripping the seminal vesicles is a good method to try as a test for sterility, as a test to see whether the ducts between the testis and the seminal vesicle of corresponding side are patent. It may, however, fail.

7. It is necessary to train the finger in making examination for this condition, as in making a vaginal examination.

8. Sometimes at the beginning of treatment nothing or but little material will be expressed. If the treatment is continued, more and more material will be expressed.

T.

The Surgery of Malignant Disease of the Orbit

Dr. R. Sattler, of Cincinnati (*Cleveland Med. Gaz.*, 1897), states that, with isolated exceptions, only depressing experiences and disappointments have resulted from the most thorough surgery resorted to, early and promptly, for the relief of malignant disease of the orbit. This cavity is a veritable stronghold for malignant disease, and when once invaded it may as well be considered beyond the scope of successful surgical interference. The reasons for this are obvious. In the orbit so many recesses and direct communications with the cranial cavity exist, and the lymphatic, venous, and arterial channels are so numerous and intricate, that neoplasms starting in adjacent regions or cavities can encroach upon its territory. A primary intra-orbital neoplasm spreads its destructive work by direct extensions along the optic nerve or the principal venous or arterial channels of the brain, or by the same channels or the lymphatics, through metastasis, to other remote parts of the body. The most dreaded are those which begin as subperiosteal ones, either in the roof or floor of the cavity. During the early stages an exploratory operation, to determine the nature of the growth and its exact location and attachment, is not only justifiable but indicated. In the more advanced stages surgery becomes wholly a measure of expediency with but one object to be accomplished: to afford relief by lessening suffering and averting exhausting hemorrhages and possibly retard an otherwise more rapid progress. Attention is called by the author to a less frequent and less dreaded expression of malignant disease, cases in which these neoplasms assume in many cases a rodent type, and invade often also the adjacent regions of the face and head. Such are a so-called irritable wart of the lid-margin, and an inflammatory pterygium, which advance steadily from an insignificant beginning, concealing

for months and years their inherent destructive properties. The author reports three cases of this class operated upon, attended by favorable results in two, an interval of five years and more elapsing subsequent to operation in the first and second cases, with no return of the growth. The third cases revealed hidden recesses of the disease, the patient dying seven days after operation. In all cases surgical interference must be preferred to the use of caustics, thermo- or galvano-cautery, because of its deliberateness and completeness under anesthesia.

L.

Removal of Plum-pit from the Left Bronchus by a Novel Procedure

Rev. hebdomadaire de L., d'Otol. et de Rhin. (No. 1, Jan. 1, 1898) gives Dr. E. Peyrissac's detailed account of the removal of a plum-pit from the left bronchus of a young man of 18 years, by having recourse to the reflex excitation produced by injecting several cubic centimeters of cold water through the larynx into the trachea, other means having failed. Tracheotomy and laryngotomy were prepared for. Instructions were given the patient to restrain inhalations after the use of the cold water and to give all the force to the cough induced. A preliminary trial elicited no adequate reflex. A larger injection resulted in the expulsion by means of a forceful cough of the plum-pit surrounded by muco-pus.

H.

Tumor of the Cerebellum, with Necropsy

C. W. Burr, of Philadelphia (*Virg. Med. Semi-Monthly*, Dec. 10, 1897), reports an interesting case of tumor of the cerebellum, the patient being a young girl, aged 9 years. Instruments were not used at her birth, labor being normal. She had been breast-fed fifteen months. Convulsions nor any serious illness she had never had during infancy. At fifteen months she began to walk and talk. Since her third year she had occasional attacks of vomiting. Her present illness dates from a fever of some kind which had occurred almost a year previously. During convalescence it was discovered that she had difficulty in walking. Since then she had never walked well, and at times had not been able even to stand. The amount of disability had varied greatly from time to time. There was obstipation but no difficulty in micturition. From the beginning she had been excessively emotional, and has had frequent attacks of causeless laughing and weeping. For several months she had vomited frequently without nausea. Frontal headaches were intense and frequent. She

was bright, even precocious. Subsequently the lower limbs became paretic, with onset of general epileptiform convulsions, her death following upon a series of violent convulsions. Upon autopsy, a tumor invading the middle lobe of the cerebellum was found.

L.

Hypertrophied Fauical Tonsils.

Dr. J. F. Barnhill (*Columb. Med. Jour.*, Vol. XIX, No. 13, 1897) summarizes his views on the above subject as follows:

1. The tonsil is practically a useless organ, from the fact that its functions can be performed by the abundance of similar tissues elsewhere in the body.
2. The tonsil, when enlarged and consequently diseased, is always a menace to health, and may predispose to fatal illness.
3. It requires treatment on the same rational grounds that an irritated infective tooth-root should receive attention.
4. Disease arising in and from the tonsil is either due to the obstruction it causes or to chemical or bacteriological processes going on in its crypts.
5. Such ailments may be cured by removing the obstruction or eradication of the crypts, or both.
6. This is best accomplished by ablation of the gland beyond the bottoms of the crypts.
7. Little of a satisfactory nature to either patient or operator will have been accomplished by merely slicing off the top of any diseased tonsil.

Ablation may be done by the snare, with cold or hot wire, with the bistoury, or one of the many varieties of tonsillotomes. By removal of the gland the author understands that enough tissue is to be cut away to include all the crypts; and the line of incision extend deeply enough to reach beyond their bases. No attempt should be made to remove an adherent tonsil until after all adhesions have first been broken up. The question as to which is the safer, the tonsillotome or cautery-snare is not definitely settled. Severe hemorrhages have followed each method. The tonsillotome is the easiest instrument to use, by far the most universally used, and is probably as free from danger as any other surgical instrument. If there be reason to suspect an abnormal development of the tonsillar blood-vessels, or an abnormal course of any large ones, the cold wire snare should be selected. Unfortunately it is in the hard and fibrous variety that bleeding is most to be feared, and it is in just such cases that the cold wire divides the dense connective tissue with such difficulty as to render the instrument almost useless.

S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

Curetting in Puerperal Fever

Herrenschneider (*Epit. Br. Med. Jour.*, Jan. 28, 1898) strongly recommends the use of antiseptic therapeutic measures in these cases. He combats the theory that curetting opens up blood-vessels and lymph-channels. These are cut, but packing with iodoform gauze produces contraction of the uterus, which prevents absorption. This tampon is better than ergot, because the latter so acts as to cause the uterine contractions to close the os and retain the poisons, whereas the tampon retains the os patent. H.

Septate Uterus and Vagina

Liell (*Virg. Med. Semi-Monthly*, Jan. 28, 1898) reports five cases of this rare condition. The first case, unmarried, gave a history of menorrhagia and menorrhagia, due to glandular degeneration of the endometrium, the uterus being found, upon examination, to be divided by an incomplete septum, the left portion of the uterus being but one-third the size of the right. The septum in the vagina was in close contact with the left wall of the vagina. Both canals of the uterus were thoroughly curetted and drained, with entire relief of symptoms. Case two was pregnant, about the third month. The condition was one of complete septate and partly bicornuate uterus, the left portion of the uterus and cornua being regularly enlarged, proportionate to the month of pregnancy, as compared with the right, the latter entering into the case but little. A diagnosis of pregnancy in the left half and horn of the uterus was made. Unfortunately, the patient was lost sight of, subsequently. The case had been considered by several physicians who had examined her, as one of probable fibroid tumor of the uterus. The third case was one of typical complete septate uterus and vagina, the patient undergoing operation for an ovarian cystoma. The fourth case was one of median septum of the uterus only, the septum forming from the fundus downward to within an inch of the external os. This condition was one in which the cavity of the body of the uterus, as well as the upper third of the canal of the cervix, was divided into two parts by the septum, there being a common canal for the lower two-thirds of the cervix. The

fifth case gave a history of having aborted two weeks previously, a curettage being subsequently performed, metrorrhagia, however, having persisted. A suspicion of some abnormality associated with the uterus existing, the author was called in consultation, when examination proved the presence of a septate uterus and vagina, the former being incomplete, the left cervix being much smaller than the right. Anteversion was also present. Curettage of both uterine canals was advised. In remarking upon the foregoing cases, it is shown that it is the exception for a septate vagina, longitudinal, not to accompany a septate uterus, the septum of the former, however, being much less dense. The septum is termed complete if extending from the external os to the fundus, and incomplete if extending but part way in either direction. The presence of this anomalous condition offers little, if any, interference with menstruation, though pregnancy is less apt to occur, in that the cervixes are smaller than in the normal cervix and the canals narrower. Abortion or repeated miscarriages are the usual accompaniments of a septate uterus. Surgical interference may be advised where the septum of the uterus is incomplete and thin. Hemorrhage may also occur from retention of attached portions of membrane, due to imperfect uterine contractions, the decidua or placenta occasionally occupying both divisions of the uterine cavity. L.

The Advisability of Chloroform in the Second and Third Stages of Labor

R. S. Martin, of Stuart, Va. (*Med. Reg.*, Nov. 15, 1897), in the light of facts drawn from letters addressed to several of the prominent obstetricians of this country, offers the following conclusions:

1. That it is safe and advisable to use chloroform in the latter part of the second stage of labor if the case demands it, only producing incomplete anesthesia in most cases.
2. That it should never be given in the first stage of a normal labor because of reasons mentioned. If the first stage be protracted, it may sometimes become necessary to give either chloroform, chloral by the rectum, hot baths, or morphine.
3. That chloroform should never be given in the third stage of labor, as it predisposes to hemorrhage. In all cases in which it has been administered, more than ordinary precautions should be taken to prevent post-partum hemorrhages.
4. That labor is a physiologic process, and when conditions arise making it a path-

ologic one, chloroform is necessary, just as an anesthetic is demanded in any surgical procedure. L.

The Menopause and the Kidneys

The menopause, whose influence on the circulatory and nervous systems is well known, may also affect the renal functions in an unmistakable manner (Dr. Le Gendre, in *La Méd. mod.*, p. 799, 1897). A renal congestion is produced, diminishing the excretion of urine and thus causing a certain degree of auto-intoxication. The usual symptoms are: A diminished quantity of urine, often a slight albuminuria, occasionally a transitory hematuria, lumbar pains, nausea and vomiting, and intense headache. Should there exist some chronic kidney-trouble, then the menopause frequently aggravates it. This complication of the climacterium can be prevented, or, when already present, relieved or cured by blood-letting or by a diuretic plan of treatment. For blood-letting the author recommends wet cups, leeches over the region of the kidneys, leeches to the os uteri, or venesection. The diuretic plan of treatment should consist in a milk diet and in the administration of theobromine. R.

Melanotic Sarcoma of Clitoris

At a meeting of the Glasgow Obstetrical and Gynecological Society, Dr. Balfour Marshall read a paper (*Brit. Med. Jour.*, Feb. 19, 1898) on a case of melanotic sarcoma of the clitoris. The patient, aged 57, passed through the menopause at 45, and had since been well. Her first symptom, noted about four months before operation, was irritation at the anterior part of the vulva, and a small tumor about the size of a large pea was felt. When first seen by Dr. M. it was about the size of a walnut, and had implicated the inner aspect of the nymphæ, but had not spread deeply. Two smaller nodules were also seen near the larger mass. There was slight enlargement of the inguinal glands, and the neighboring area of skin was pigmented. At the operation there was no difficulty in keeping clear of the urethra. Dr. M. remarked that sarcoma of the vulva was very rare; he had been able so far to collect only nineteen cases, and of these thirteen were melanotic sarcomata, but only two seemed to have started in the clitoris. Melanotic sarcoma was rapid in growth and exceedingly malignant, spreading by the lymphatics, and giving rise to metastatic growths in other organs. Operation was unsatisfactory, only two cases being reported as cured. It had

been alleged that this form occurred chiefly in young women, but he found that, with one exception, the age of first appearance was 40, or between 40 and 72. As to origin, Veit held that it arose from a pigmented nevus, while Taylor said that it began as a purple spot in the deep layers of the mucous membrane, which became nodular and grew rapidly into a warty tumor. The tumor shown by Dr. M. showed all three conditions—namely, pigmented spots, two small nodules, and a slightly lobulated fungoid tumor. G.

Some Pathognomonic Physical Signs of Chronic Gonorrheal Infection in Women, and Their Value in the Diagnosis of Pelvic Disease

A. P. Dudley (*Am. Gyn. and Obstet. Jour.*) offers a practical paper upon the subject. He refers to the susceptibility of the uterine mucous membrane to the action of the gonococcus, and its beautifully arranged ruga within the cervical portion of the uterus, upon and behind which the germ can secrete itself and do its deadly work unmolested by almost any form of medication. Our efforts are to be directed towards relieving the distress and repairing the damage, particularly that pertaining to the urethra and bladder, as quickly as possible. These patients never return to the condition they were in before the infection took place. The pouting meatus urinarius remains, its mucous membrane prominently changed in character, resembling what has been commonly termed urethral caruncle. The ducts of the glands of the vestibule remain indefinitely, and in many cases for years, as red and angry spots to mark the former dwelling-place of the gonococcus. These and the ducts of the vulvo-vaginal glands, as the result of gonorrheal infection, stand out permanently. To these existing chronic pathological conditions are applied the terms "residual" and "latent" gonorrhea. A duct once so infected never returns to its normal appearance; while some present these signs to a marked degree, others will be only slightly changed, dependent upon the virulence of the infection and the number and vitality of the cocci, and whether the infection is a pure or a mixed one. A sufficient number of these signs being present to attract our attention to the possibility of gonorrheal infection, a history of the acute attack should then be obtained, failing which, we are to obtain the knowledge we seek through the husband. The microscope will prove of substantial aid as well. Any pathological change in the urinary tract that could follow in the wake of gonorrhea should be sought for, the

cystoscope even being brought into play for the discovery of changes at the base of the bladder about the ureters. To those coming to us presenting the external signs of gonorrheal infection and complaining of peri-uterine trouble, we should be wary in our prognosis as to promising a cure by the application of local measures of treatment other than surgical. As regards abscess of the vulvo-vaginal glands, could the gonococcus or the diplococcus be discovered in the gland-contents, extirpation would be the only treatment that would relieve the woman, not only from the dangers of repeated attacks of inflammation, but from the risk of infecting the opposite sex. In pernicious specific leucorrheal discharge from the cervix, the secretion is only the outer evidence of a deep-seated infection that has in all probability permanently injured the uterine appendages, and is one of the most frequent causes of sterility in women. As to structural changes in the endometrium resulting in hemorrhage—increased and prolonged menstruation, its origin may be traced frequently as the result of a specific infection of the uterine mucous membrane recognized by the external signs of infection pointed out by the author. The author is opposed to the tenet that a woman once infected with gonorrhea is forever after sterile; were such the case, then to tell it to each wife thus infected would be to ring the death-knell of her happiness. Such cases have been treated by him by divulsion, curettage, laparotomy, bisection of the tubes and ovaries, and the women are to day happy mothers. Furthermore, though it is claimed that gonorrheal infection of the appendages is usually bilateral, it is not sufficiently settled to warrant the author in removing what is apparently a healthy tube and ovary because of the fact that the opposite one is diseased. L.

Manganese Dioxide in Functional Derangements of the Uterus

Prof. And. H. Smith considers manganese dioxide to possess a specific action in functional troubles of the uterus (*Georgia Jour. of Med. and Surg.*, Vol. II, No. 1). It has proved in his hands equally serviceable in amenorrhea and in menorrhagia; when the interval between the periods was too short, or when it was too long. In the absence of organic disease it seems to have the power in a great many cases of bringing the menstrual function back to the normal standard in whatever direction the deviation from that standard may have been. Its other good effects are in relieving the pains of dysmenorrhea and the headaches of uterine

origin characterized by great burning and by being limited to the vertex. It also gives decided relief to the hot flashes attending the menopause.

The dose is 2 grn. three times a day, but as it is absolutely harmless it may be given in much larger doses and at much shorter intervals. R.

Pelvic Sarcoma in a Girl of Eleven Years

Jour. de Clin. et de Thérap. inf. (Dec. 9, 1897, p. 972) has an account of a case of retention of urine with constipation, produced by pelvic sarcoma as large as the closed fist, completely filling the pelvic basin crowding upward the uterus and adnexa, and forcing the distended bladder upward above the umbilicus, at the same time jamming the urethra against the os pubis and crowding the rectum backward against the coccyx and extruding it, thus accounting by pressure on the one hand for the retention of urine and distention of the bladder and on the other for the constipation. The patient died in one month, and the postmortem showed the character of the tumor to be as above described.

Cancer of the Uterus Treated by Chelidonium Majus

As the subcutaneous injection of this remedy proves extremely painful to the patient, Dr. Freudenberg (*Centralbl. f. Gyn.*, No. 30, 1897), has been applying a 50-per-cent. solution of the extract locally by means of a cotton swab. This method is free from pain and produces shrinking of the tumor and checks the morbid secretions. In some cases it arrests also the uterine hemorrhage. It exerts no influence upon the growth of the tumor. The application is being repeated once every two to four days. In severe hemorrhages and rapid hyperplasia the author employs high vaginal tampons saturated in chelidonium once a day. The extract may be diluted by weak antiseptic solutions. S.

A Case of Complete Prolapsed Uterus in a New-born

Dr. Rodawansky describes a case of complete prolapse of the uterus in a new-born child (*Münch. med. Woch.*, No. 2, p. 53, 1898). This case differs from all other described cases in the fact that the child had no spina bifida or hydrocephalus; it was normal in every respect. The uterus corrected its position spontaneously, so that when the child was six months old the cervix could just be seen in the introitus vaginae by taking the labia apart. R.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M. D., WILLIAM J. ROBINSON, M. D.

Osmic Acid in the Treatment of Trigeminal Neuralgia

At the meeting of the Union for Internal Medicine in Berlin, Franck (*Med. News*, Vol. LXXII, p. 220) presented two women whom he had cured of trigeminal neuralgia by injections of a watery solution of osmic acid, 1 to 1.5 per cent. Sometimes a single injection suffices; but if the nerve is not found by the first injection, it is necessary to repeat the attempt. The injection itself is painful, but it is followed by anesthesia in the region of distribution of the nerve. Eulenberg endorsed this statement, cautioning the members always to have a freshly prepared solution on account of the readiness with which osmic acid decomposed.

Ichthyol as a Sulphur Compound

Dr. Jessner states (*Der Aertzl. Prak.*, X, p. 686) that ichthyol is an excellent means of introducing sulphur into the system, and that it exerts a remarkably beneficial action, the digestion being decidedly improved. Even weak stomachs bear it well, and although it at first gives rise to unpleasant eructations, these soon cease. He employed the remedy in a 50-per-cent. aqueous solution, of which from 20 to 30 drops were given with peppermint-water, beer, coffee, etc., in gelatin capsules, or in pill form. When patients were very sensitive to the odor and taste, he ordered the pills to be silver-coated.

The writer also refers to ichthalbin, a chemical compound of ichthyol with egg-albumin, occurring in the form of an odorless, tasteless powder, which has been introduced as an admirable means of employing ichthyol pure internally. The ordinary dose of ichthalbin is 4 gme. (1 dr.) a day. F.

Protargol in the Treatment of Gonorrhea

Hermann Goldenberg (*N. Y. Med. Jour.*, Vol. LXVII, p. 119) has treated upward of sixty gonorrheal cases with protargol, and his estimate of the drug agrees in the main with that expressed by Neisser, namely, that it surpasses all other agents hitherto in use for the treatment of gonorrhea. Unlike nitrate of silver, which has merely a superficial effect owing to its forming insoluble and consequently inert combinations with albuminous substances, protargol, in which the silver is in firm combination with

a highly diffusible proteid base, has a deeply penetrating effect. The mode of application depends on whether the inflammation is localized in the anterior or the posterior part of the urethra. In the former the patient is instructed to inject a 1-per-cent. solution with an ordinary urethral syringe holding three drachms; this is retained for from ten to fifteen minutes, and the injection is repeated three times daily. In posterior urethritis the author makes injections with a hand-syringe having a capacity of five ounces, or with the Guyon instillator. The strength of the solutions for the posterior urethra varied from $\frac{1}{2}$ to 1 per cent. The treatment was found absolutely painless and unattended with any evidences of local irritation or general disturbances.

Orexine Tannate

Owing to the pungent taste possessed by basic orexine, which largely prevents its being given to children, Dr. Ferd. Steiner (*Wien. med. Blätt.*, No. 47, 1897) was led to employ orexine tannate, a new compound of orexine. This occurs as a yellowish-white, odorless powder, having a taste resembling that of chalk. It is insoluble in water, but dissolves readily in dilute acids, such as hydrochloric acid, and in the gastric juice. It must not be brought into contact with iron preparations, otherwise it blackens and acquires an inky taste.

The author employed orexine tannate in 100 cases of the most various kinds, and obtained negative results in only a few cases. On the other hand, parents stated that children who previously would not eat under compulsion, spontaneously demanded food after being given orexine tannate, the appetite at times becoming ravenous. The body-weight was, as a rule, decidedly increased, and the pallor disappeared. In a neurasthenic, tuberculous boy the weight appreciably increased as long as the orexine tannate was given, only to remain stationary or even to fall when the remedy was discontinued, but to increase again upon resuming the medication. The results usually obtained were such that, after giving the remedy for five consecutive days, the appetite was either restored permanently or for a long period.

The remedy was given to children of from 3 to 12 years of age, in doses of 0.5 gme. (8 grn.) each before dinner and supper. To children who ordinarily refused all medicine the orexine tannate was given in the form of chocolate tablets; otherwise the powder itself was given, in a little sugar and water, or inclosed in capsules. It was found best to give the preparation about

one and a half to two hours before the two principal meals of the day, and not to permit anything to be eaten between meals. It proved best also to give the medicament at first for five days twice daily, and then to suspend its use during the two days following, observing whether the increased appetite remained or receded. In the latter case, the orexine tannate was again given for ten days. As a rule, its use could be dispensed with after two or three weeks' treatment, and in only a minority of cases was it necessary to continue its use for any great length of time.

No ill results ever supervened, no habit was formed, nor was loss of activity of the orexine tannate observed. No special diet was prescribed. The combination with tannin appears to have no noticeable influence on the dejections, and it would appear that the constipating action of the tannin is compensated by the characteristic action of orexine in rendering the dejections more liquid, as remarked by Kotljarski and Swirjelin. Nevertheless it is advisable to see to it that daily dejections occur.

The least effects were obtained in organic gastric affections, in acute fever, in the advanced stages of phthisis, and in habitual constipation. On the other hand, the most satisfactory results were had in convalescence from infectious diseases, in chlorosis, anemia, nervousness, neurasthenia, and gastric atony, and in inanition due to habitual lack of nourishment. The remedy appears, however, to be especially valuable in the first stage of pulmonary tuberculosis, chronic pneumonia, and in those cases of scrofula in which the glands have not yet been invaded by tubercles; the most marked success has been obtained in the last-mentioned set of cases.

In conclusion, Dr. Steiner states that orexine tannate is a stomachic upon which greater reliance can be placed than upon any of the stomachics heretofore employed in pediatrics, whether used for the purpose of stimulating a declined appetite and raising it to a normal condition, or of exciting and regulating peristalsis. F.

Conium Hydrobromate in Tinnitus Aurium

Conium hydrobromate, $C_8H_{17}NHBr$, occurs as colorless, rhombic crystals, soluble in two parts of water or alcohol, and melting at $100^{\circ}C$. This remedy has been employed heretofore only as an anti-spasmodic and anti-neuralgic in tetanus, cardiac asthma, ischias, and whooping-cough; but Dr. Gomez now reports (E. Merck's 1898 *Bericht*) having used it with success in tinnitus aurium. In twenty-three cases

treated therewith, one was entirely cured, six greatly improved, six slightly so, and ten remained unaffected. The best results were obtained in cases where both the middle and inner ear were simultaneously affected.

In prescribing conine hydrobromate care must be taken not to exceed 0.002 gme. (1-30 grn.) as a maximum single dose, lest gastric disturbances supervene. The following formula is suggested:

Conine Hydrobromate... 2 c'tg. ($\frac{1}{3}$ grn.)
Spirit Peppermint 5 gme. ($1\frac{1}{2}$ fl. dr.)
Syrup..... 100 gme. (3 fl. oz.)

Dose: Teaspoonful thrice daily.

F.

The Action of Chlorhydrins

In the *Journal of Physiology* (Vol. 22), C. R. Marshall and H. L. Heath come to the following summary of results upon their experimental studies with chlorhydrins. These studies include the fascinating questions: In how far can the physiological action of introduced organic or inorganic radicals be prejudged by their chemical formula?

1. The introduction of chlorine atoms into a compound of the fatty series increases its narcotic power.

2. It increases also its toxic properties, unless the compound is greatly changed as regards its physical properties, and especially its solubility.

3. The influence on muscular tissue rapidly increases with each increment of chlorine, and, as far as the chlorhydrins are concerned, this action runs parallel with their power of producing narcosis.

4. As a result of this action on muscular tissue the circulation is distinctly affected.

By the higher chlorinated compounds, the heart is more quickly paralyzed, and the blood-vessels more markedly dilated than with those in the lower series. J.

Senecio Jacobæa in Functional Dysmenorrhea

During the last year a number of clinical experiments have been made by Dr. W. E. Fothergill (*Pharm. Jour.*, No. 1434, p. 543) with a fluid extract of *Senecio jacobæa*, made by a process devised by William Kirkby.

In order to demonstrate that senecio will not cause abortion, the extract was given in considerable quantities to a number of pregnant women. In no case did any symptom of miscarriage follow the administration of the drug. In order to test the effect of senecio upon normal menstruation, 1-4 gme. (20 minims) of the extract was given four times daily to healthy women

of regular menstrual habits during the intermenstrual period. The result was that in each case menstruation occurred earlier by some days than it was expected, but the duration of the period was shorter than usual. The extract was given in the same doses to a number of patients suffering from amenorrhea. In those cases where there was marked anemia, advanced phthisis or other exhausting disease, there was no result. In other cases, however, where the amenorrhea was due to hope or fear of pregnancy, to nervous shock, to sleeping in damp beds or accidental immersion in water, senecio never failed to cause a reappearance of the menses in from two to fifteen days. Some girls who, though otherwise healthy, had never menstruated, took the extract with the result that the menses appeared. In some cases of dysmenorrhea in which the drug was tried no definite benefit followed.

If it is allowed that menstruation is presided over by a special center in the lumbar portion of the spinal cord, it would seem that senecio has a stimulating effect on this center. Cases of so-called functional amenorrhea are caused by a want of activity in the nerve-center for menstruation, and are cured by senecio. This drug therefore acts through the nervous system, and not by causing pelvic congestion or contraction of the uterus. There is a wide range of utility for such a direct emmenagogue; for our present emmenagogues all act indirectly, and most of them may, if given during pregnancy, cause abortion. Senecio, however, may be safely given to any patient whose chief symptom is amenorrhea, before submitting her to the unpleasantness of a physical examination. F.

Death from Oleum Chenopodii

Dr. Bond reports in the *Mar. Med. Jour.* (Aug., 1897) the following interesting case: A child 3 years old who was supposed to have worms was given a few drops of oil of wormseed (American) on a little sugar. No worms making their appearance, the mother gave the child on the following morning half a teaspoonful of the oil, undiluted. An hour afterward the child vomited twice and fell into stupor. When the doctor arrived the child was lying quiet and could not be aroused. The eyes were closed, the pupils were small, but equal; no fever, pulse and respiration normal. The author induced vomiting by salt and water, the water coming up clear. The child was given one grain of calomel, and castor-oil was ordered in half-teaspoonful doses every hour. At noon the pulse was 96, the respiration 48 and of a snoring char-

acter; there was much mucus in the mouth, sweat on the face, and beginning twitching of the right hand. The pulse soon rose to 120; no urine was passed. At 3 P. M. the pulse was 128, respiration became stertorous and diaphragmatic—56 per minute; the stupor was very deep; at 4 P. M. the child died.

This case is of interest, as in no text-books is there any intimation given of the possible toxic effects of *Chenopodium anthelminticum*. R.

Convallaria Majalis Poisoning

Dr. Andrew reports the following case (*Therap. Gaz.*, Vol. XXII, No. 2, p. 144). Nearly a teaspoonful of the fluid extract of *Convallaria majalis* was given by mistake to a child 2 years old. When the doctor saw the child, about an hour afterward, it was extremely restless, rolling and tossing about the bed, the arms and legs trembling continuously. It had general convulsions but once. The child was aroused with great difficulty, but immediately relapsed into stupor again. The pupils were moderately dilated; axillary temperature 97° F., pulse very irregular, at times 140 per minute and at times so rapid that it was impossible to count it; respirations, shallow and superficial, but regular; the face somewhat flushed. There were no signs of gastrointestinal irritation, no diaphoresis nor diuresis. Under symptomatic treatment, the child recovered completely. R.

Hydrogol, Hydrosol, and Organosol

Credé recently introduced two preparations (*Pharm. Post*, Vol. XXX, p. 609) which were claimed to be solutions of soluble, metallic, colloidal silver in water and organic solvents. The aqueous solution was named "Hydrosol," and the solutions in organic solvents, such as alcohol, glycerin, etc., were named "Organosols"; while the name "Hydrogol" has now been given to the colloidal silver contained in solution. The preparations are intended as succedanea for the silver salts commonly employed—such as actol, itrol, etc.

According to E. Schneider, the colloidal silver is obtained by Carey Lea's process as follows: 200 gme. (6 2-3 fl. oz.) of a 10-per-cent. silver-nitrate solution are treated with a mixture of 200 c.c. (6 2-3 fl. oz.) of a 30-per-cent. ferrous-sulphate solution with 280 c.c. (9 1-3 fl. oz.) of a 40-per-cent. sodium-citrate solution to which 50 c.c. (1 2-3 fl. oz.) of a 10-per-cent. sodium-hydrate solution have been added. The beautiful lilac-colored precipitate is transferred to a filter, where it becomes blue, and is freed from the

mother-liquor by exhaustion with an air-pump for half an hour. The violet precipitate is then washed from the filter, and dissolves in the water used for the washing. From this solution, in a certain degree of concentration, the colloid is precipitated by absolute alcohol. It contains 99.7 per cent. of Ag, and is entirely soluble in water, absolute alcohol, and several other fluids. The alcoholic organisol, Ag (C_2H_5OH), has a dull, chlorophyll-green color by transmitted light, with a tinge of blue; when considerably diluted it is yellowish-green and clear. By reflected light the solution appears of a very cloudy violet-brown. Most organic solvents coagulate the solution immediately; many, however, cause this only after the lapse of several weeks or even months. F.

Antitoxic Power of Lymph and Blood

Pagans (*Settimana Medica*, LI, Nos. 51 and 52) has investigated the antitoxic power of lymph and blood obtained from animals that had been previously immunized from diphtheria. His observations revealed the following facts:

1. In dogs treated with increasing doses of diphtheria antitoxin the lymph is about one-third less antitoxic than the blood.
2. The same ratio exists when animals are treated with intravenous injections of anti-diphtheritic serum.
3. No special organs of the body are capable of antitoxic properties, for this property essentially belongs to the blood.
4. Antitoxin, like albumen, has the physiological property of osmosis. G.

Tannon

Under the name of "Tannon" a condensation-product of tannin and hexamethylenetetramine has been introduced into medical practice. The new compound is described by Dr. E. Schreiber (*Therap. Beil. d. Deut. med. Woch.*, Vol. XXIII, p. 81) as a bright-brown, light, slightly hygroscopic, tasteless powder. It is almost insoluble in water, weak acids, alcohol, and ether, but it is slowly soluble in weak, alkaline fluids, and contains 87 per cent. of tannin and 13 per cent. of hexamethylenetetramine.

The remedy was exhibited by the author in thirty-two cases—ten of chronic enteritis, twenty of acute and sub-acute enteritis, and two of typhoid fever. Among the chronic cases, four were tuberculous, and these responded promptly to the remedy. Four non-tuberculous chronic cases were also rapidly relieved, but in the two remaining chronic cases the results were not so good.

In all the acute cases good results were obtained in the polyclinic practice. In most cases the diarrhea was checked by two or three doses of 1 gme. (15 grn.) each. In two cases of cholera infantum doses of 0.2 to 0.4 gme. (3 to 6 grn.) gave excellent results. In the two cases of typhoid the action of the remedy was prompt: On the second day of the exhibition of 4 to 6 gme. (60 to 90 grn.) daily the number of dejections fell from 12 to 2 per day.

According to the author, tannon is active only in the intestinal canal, where the alkaline fluids decompose it into its component parts, each of which then manifests its well-known therapeutic activity. At first doses of 0.5 gme. (8 grn.), repeated up to six times daily, were employed; but later it was found more advisable to give the remedy in doses of 1 gme. (15 grn.) three or four times daily to adults, and from 0.2 to 0.5 gme. (3 to 5 grn.) several times daily to children. From these doses no disagreeable by-effects were ever observed. F.

Pepsin as an Aid to Digestion

Dr. Kellogg, in *Good Health* (Vol. XXXIII, No. 2, 1898), says that pepsin as an aid to digestion is a delusion. There is hardly one case of indigestion in a hundred in which the trouble arises from a deficiency in pepsin. If anything is lacking, it is almost always gastric juice. If pepsin is habitually kept in the stomach, the stomach will not take the trouble to make it, and may lose its power to do so. An English physiologist took two guinea-pigs of the same weight and fed them the same amount of food, giving one pepsin and the other none. The one that was fed pepsin gained faster than the other for about six weeks; then he began to lose, and at the end of three months the one that took no pepsin was heavier and stronger than the other. This shows that by the long-continued use of pepsin the stomach becomes debilitated. S.

Zinc Sozoiodolate in Pannus

Dr. H. Fuechtenbusch, of Sidney, O., states in a letter to the editor of the *BULLETIN* that he has used zinc sozoiodolate (sozoiodole-zinc) in two cases of granulated eyelids with most excellent results. The first case, which had resisted all treatment by a specialist, was one in which both upper eyelids were affected, and was complicated by the presence of corneal ulcer and intense congestion of the corneal vessels. Copper sulphate could not be applied because too irritating. The treatment consists of scraping the granulations by means of a sharp

spoon until they bleed, and then dusting the bleeding surface with zinc soziodole. This procedure was repeated every four to six days, as required, and after sixteen days the granulations had entirely disappeared, and the corneal ulcers healed, leaving only a very small scar.

The second case was in the writer himself. Both lower eyelids were granulated. The above-mentioned process was applied, with the result that in three sittings the granulations were cured. On account of the burning sensation caused by the powders it is necessary to previously apply cocaine or one of its newer congeners. The application of the zinc soziodole does not, however, cause any more pain than is caused by the copper-sulphate pencil. F.

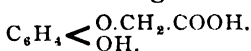
Therapeutics of Peronin

Dr. Stampfl states (*Med. Press and Circ.*) that peronin is admirably suited for all laryngeal and pulmonary affections where the cough is troublesome. Reflex vomiting after attacks of coughing and pain were quite relieved with a reduction in the expectoration. In neuralgia, when not too severe, peronin was of great service, and it was also beneficial in chronic bronchitis and congestive catarrhs. It produced a sort of itching on the skin from diaphoresis, although this is not constant; and on the latter account it is contraindicated in phthisis internally or as insufflations for throat-affections.

Dr. S. has also used peronin freely among children without observing any bad effects. Another property of the drug was its freedom from causing any constipation. The dose given by him was 0.02 gme. (1-3 grn.), and he states it should not exceed 0.06 gme. (1 grn.). The daily amount varies between 0.15 and 0.2 gme. (2 1-4 to 3 grn.). F.

Guaiacetin in Tuberculosis

Dr. Köllner, of Vienna, states (*Aerzt. Centr.-Anzeig.*, Nos. 32, 33, 1897) that he has used guaiacetin in thirty cases of tuberculosis, and that, from the results obtained, he considers it a welcome succedaneum for guaiacol, as it combines all the good properties of the latter in a higher degree, while being free from its drawbacks. Guaiacetin is, like guaiacol, a derivative of pyrocatechin, its formula being



The sodium salt $\text{C}_6\text{H}_4\text{O.CH}_2\text{COO Na}$. O H is the form, however, most suitable for exhibition. It occurs as a white, odorless powder, readily soluble in water or wine, and possesses a not unpleasant taste.

It is said to be non-poisonous, to yield no guaiacol by decomposition in the body, and to be easily borne.

It is said to have a particularly good effect in not only increasing the appetite, but also in causing a reduction of the fever, and frequently, also, complete suspension of the night-sweats without inducing any diarrhea even after long-continued use.

Of the thirty cases referred to, only one ended fatally; all the rest were benefited, and in no case did the patient's condition become worse. The author also lays great stress on the importance of proper nourishment, and states that the diet must be so regulated as to furnish a greater amount of strength than the patient uses up per day; in other words, as the body-weight increases, the general condition improves, and vice versa.

Guaiacetin was also employed by the writer in pediatrics, doses of 0.25 gme. (4 grn.) three or four times daily, with chocolate, being readily taken and well borne.

Of importance is also said to be the hemostatic property possessed by guaiacetin, which was particularly observed in a case of hemoptysis. F.

Bromopin and Iodopin

These are the bromine and iodine addition-products, respectively, of sesame-oil. Both occur as yellow fluids having a purely oleaginous taste and physical characteristics resembling those of fatty oils; they contain 10 per cent. of bromine and of iodine, respectively.

The physiological investigations carried out by Dr. H. Winternitz on animals, established the important fact that after the internal administration of iodopin, the iodized oil was found to be deposited in almost every part of the body. Iodine could be detected not only in the melted abdominal fat and in the subcutaneous cellular tissue, but also in considerable quantity in the ethereal extract of almost every organ, muscular tissue, and bone. Even muscular tissue that had been freed as far as possible from all visible fat, was found to contain considerable quantities of the iodized oil. Next to the liver, iodine was found in comparatively greatest quantity in the bone-marrow.

The fact that iodized oil is deposited in all parts of the body suggested to Dr. Winternitz the idea of using the remedy therapeutically in the hope of having the iodine carried to the seat of the disease and deposited there. The action in such a case must be similar to that of potassium iodide, because the iodine of the iodized fat is liberated in the intestines or blood dur-

ing the oxidation of the fat, and is converted into potassium iodide. Clinical experiments carried out in pursuance of this idea have shown that the iodized fat is active in this respect and that it exerts its effect with far smaller doses than does potassium iodide. For instance, extended ulceration of the arm, in treating which potassium iodide was given for weeks in ordinary doses, was healed within six days by the exhibition of three teaspoonfuls of a 5-per-cent. iodized fat. The daily amount of iodine introduced into the system in this case was at most half that given before in the form of potassium iodide.

The bromine addition-product, bromopin, has an analogous action, but although such effects are not to be expected from it as may be obtained from the iodopin, comparatively speaking, it is not improbable that in certain cases it may give better results than other bromine compounds. Clinical investigations are now under way regarding it; the results will be published later.

Iodopin is given in doses of from a teaspoonful to a tablespoonful, three times daily, in syphilis and in scrofula. In syphilis in children the following emulsion is suitable for administration:

Iodopin.....	50 gme. (1 $\frac{3}{4}$ fl. oz.)
Powdered Acacia....	25 gme. (6 $\frac{1}{2}$ dr.)
Peppermint Water...	75 gme. (2 $\frac{1}{2}$ fl. oz.)
Syrup.....	30 gme. (6 fl. dr.)

Dose: Tablespoonful 3 or 4 times daily.

Bromopin may be given in similar doses and in similar manner. F.

Hydrargyrol

A new antiseptic is described by Gautrelet (*Nouv. Rem.*, Vol. XIII, p. 717), which he has named "Hydrargyrol," to recall the constituents of which it is composed—mercury and phenol. Chemically, it is mercury parphenylthionate, of the formula $C_6H_4.OH.SO_3.Hg$. It occurs in the form of brown-red scales having an odor resembling that of gingerbread. Its specific gravity is 1.85, and reaction neutral. It is insoluble in absolute alcohol, but quite soluble in water and in glycerin, yielding beautiful, ruby-red solutions. The usual reagents for mercury and carbolic acid neither precipitate it nor yield color-reactions with it. It precipitates alkaloids and basic toxins, but does not precipitate albumin; and this is its most important and valuable characteristic, and constitutes its superiority over corrosive sublimate. Solutions of hydrargyrol are not attacked by the metals of the iron group, but are decomposed by acetic acid and even diluted alcohol. In proportions of 1 to 250 hydrargyrol completely sterilizes bouillons,

and, introduced into a growing culture, it precipitates the alkali-toxins. Its solutions are reported to be neither caustic nor even irritant. Experiments made on animals tend to prove hydrargyrol to be seventy-five times less toxic than corrosive sublimate. Clinical reports are awaited with interest. F.

Cocaine in Acute Coryza in Infants and Children

Dr. H. Naegeli (*Therap. Woch.*, IV, p. 1311) writes that he employed the following treatment with most excellent results. He orders a 2-per-cent. solution of cocaine (cocaine muriate, 2 grn.; water and glycerin, each 50 grn.), and with a medicine-dropper he instils one drop into each nostril. The treatment has proved equally successful in the coryza of the new-born, of nursing infants and in that of older children. Repeated three or four times during the day, it completely subdues the coryza and establishes free nasal breathing. The treatment is entirely free from danger. R.

Atropine Sulphate in Delirium Tremens

Dr. Touvime, of St. Petersburg (*Therap. Monat.*, XII, p. 119), treated eleven cases of delirium tremens with atropine. With but one exception, all the patients fell into a quiet and deep sleep after a single injection of 1-60 grn. of atropine sulphate. R.

Difluordiphenyl

Further details are now at hand regarding difluordiphenyl, which was briefly alluded to under the name of "antitussin," on page 1135 of Vol. XI of the BULLETIN. Difluordiphenyl ($C_6H_4.FI-C_6H_4.FI$) is described by Dr. P. Thimm (*Therap. Woch.*, Vol. IV, p. 1244) as a white crystalline powder, of the specific gravity 1.04 and melting at 86° C.; insoluble in water, but readily soluble in alcohol, ether, chloroform, or fixed oils. It has a pleasant, aromatic odor, recalling that of dillseed. The preparation is applied, mixed with talcum, in 10-per-cent. dusting-powder or in 10-per-cent. ointment with wool-fat. Bacteriological investigations made with the ointment showed that its curative properties were not due to any bactericidal power of its own, but more likely to the liberation of some active agent by the decomposing action of the secretions. The author used the remedy in fifteen cases of venereal ulcerations. The regeneration of the epidermis was astonishingly rapid, after previous application of concentrated carbolic acid according to Neisser's method. F.

REVIEWS

A Laboratory Guide in Physiology; With Appendices on Organization and Equipment (Illustrated). By Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School, Chicago: Chicago Medical Book Company. Price, cloth, \$2.50.

The author's intention in the present work may be summed up in two sentences quoted from the introduction: "Extended explanations on the part of the demonstrator may instruct the student, but they do not educate him," and also, "If the facts to be observed and the principle involved be detailed and explained in advance, the student's power of independent observation and investigation remain undeveloped." Prof. Hall in his laboratory work follows the foreign methods, and the same is true of his book. While it lays down in detail special and general working plans, it aims to induce original (or at least independent) thought and individual deductions in the student. Thus from the pedagogic standpoint the "Laboratory Guide" is all that a book of that nature should be, and it should commend itself to laboratory instructors in physiology everywhere. The book is divided into sections upon general physiology, the circulation, the respiration, the digestion and absorption, vision (including special chapters upon practical ophthalmoscopy and skiascopy), physiological hematology, and pharmacology, and has three appendices describing the organization and equipment of a physiological laboratory, and a description of the uses of different apparatus. The press-work is good, and is done upon fine heavy paper. The volume is well bound.

The Elements of Clinical Diagnosis.—By Professor Dr. G. Klemperer, Professor of Medicine at the University of Berlin. First American, from the seventh German edition. Translated by N. E. Brill, A. M., M. D., and Samuel M. Brückner, A. M., M. D., Mount Sinai Hospital, N. Y. The Macmillan Company, London and New York. \$1.00.

Often the best way of estimating a book is by comparing it with another of known value. This little book on diagnosis, like Vierordt's larger work, has its birthplace in a German University. Vierordt's, a volume of 700 pages, is a work of accepted authority and completeness. Its little rival, Klemperer's *Clinical Diagnosis*, has only 280 pages, and bids for first place in all but minuteness of detail. The larger volume will do for home consultation; the smaller one will fit into the pocket and furnish excellent pabulum for a small meal snatched at odd moments away from home. Even if it lies on the desk at home, it is most handy for ready reference, and, on minute examination, it is found to contain almost as much on some subjects as the larger work. For example, the chapters on digestion and examination of the urine seem to be almost as replete with all the best tests and latest hints in diagnosis. Indeed, one is struck with the fact that rarely does the larger work contain an important test that is not given in the smaller. Again, if one had not seen the chapter in Vierordt's on the examination of the nervous system, he would wonder what more could be needed than what this book of Klemperer's gives, for it seems to be exhaustive enough. Vierordt's,

perhaps on account of its size, has had but two editions, whereas the one we are considering is the seventh edition of the German, produced for the first time in English. The handiness of this little volume, its thoroughness and its comprehensiveness in nearly all important particulars, its small cost compared to that of the larger work, and its more recent issue, embracing a new chapter on the diagnostic use of X-rays, altogether will make it the choice of the two for most readers, especially for students. Of course, the larger work has three times as many illustrations, but the sixty-one illustrations which this book contains are helpfully chosen. Of one thing we feel sure, that only in Germany could such comprehensive works as these on diagnosis be produced, it being the characteristic habit of the German mind to take the diagnostic steps in medicine with masterful precision.

How to Become a Trained Nurse.—By Miss Jane Hodson, Directress of Nurses, State Hospital, Fountain Springs, Pa., etc., etc. William Abbott, Publisher, 31 Nassau Street, New York. One volume, 8 vo., 266 pages.

This book will be of service and value to those seeking entrance to the ranks of trained nurses, as it gives details of over three hundred schools, thereby enabling the candidate to choose between the many different schools and to know something about the details of the profession they wish to enter. The details given have reference to size of school, pay, hours, rooms, instruction, and many other things. Fifteen chapters are devoted to the various methods of nursing, written by a number of superintendents. These chapters will be useful and interesting to the graduate nurse, as well as to beginners. All are short, simple, and well written. To this reviewer the biographies of Miss Nightingale and other nurses who have become shining lights of the nursing world have proven exceedingly interesting reading. The illustrations, which number nearly forty, are very well executed. The physician, too, will find the book useful, as it contains information which he frequently needs in answering questions pertaining to the career of the trained nurse. The press-work is good, and the editor's work has been well done.

The Nervous System and Its Diseases.—

A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M. D. J. B. Lippincott Company, Philadelphia; London, 6 Henrietta Street, Covent Garden, 1898.

Probably most of the subscribers to the work before us will feel, as did the writer, a keen sense of disappointment when, after having subscribed for a treatise on diseases of the nervous system, and having seen the title of "The Nervous System and Its Diseases" upon the outside of the book, they find that all they have is "a treatise on the diseases of the brain and cranial nerves, with a general introduction of the study and treatment of nervous diseases" (sub-title). The fact evidently is that Professor Mills, or rather his publishers have felt disinclined to make the heavy expenditure required for the out-putting of a work on the nervous system of the size required to fulfil the desires of Professor Mills himself. We are told in the preface that another volume, if this present one is successful, will be published to complete the book, but we think that much less than half the field is covered by the present volume, and to carry out the project consistently, two volumes will be required. Even, however,

as a work upon the diseases of the brain and its nerves the book is not complete. There is a consideration of such diseases as hemifacial atrophy, hemifacial hypertrophy, cephalic tetanus, and migraine, and yet no chapter of cerebral syphilis. The present issue is over one thousand pages in length; well printed; of good aspect, and very plainly and clearly written. The style is excellent, the sentences being usually short, direct, and very easily understood. The discussions of the subjects concerned are most elaborate, and show that the writer has been a very hard student of the literature of the profession, as well as of the diseases themselves as they are seen in the office consulting-room, at the private bedside, in the hospital ward, and in the "dead-house." As showing the elaborateness of the work, over two pages are occupied with a discussion of mirror-writing, giving the clinical records back from the days of Leonardo da Vinci to the present time. It seems to us too much has been made of this subject by writers, our present author included, as we think there are very many normal individuals who can write mirror-writing with almost no training, and probably a large number who can write with the left hand—mirror-writing with the right hand—ordinary writing at the same time. That it has any especial pathological significance we do not believe. We note that in the article on aphasia Dr. Mills adopts the theory of the existence of a distinct graphic motor-center, but are not quite able to comprehend some of his arguments therefor; thus, we do not see how the fact that the brain that has no visual images can be trained to write as in the congenitally blind, proves the existence of this motor graphic center. In conclusion, as a fragmentary book the present treatise is very valuable; as a complete treatise on nervous diseases it, at present, has no existence. Let us hope that this existence soon will be vouchsafed to it by the addition of that which is needed; when this has been done the profession of America will have a voluminous elaborate work of nervous diseases which will compare favorably with any in the world.

Biennial Report of the Department of Health of the City of Chicago: Being for the Years 1895 and 1896.

This report is valuable because of its completeness. Several features, especially those referring to the sanitary condition of the water-supply, as indicated in the tabulated reports of daily examinations, are of interest. The report gives in detail notes upon the establishment of the new isolation hospital. The plans of this hospital are excellent and should commend themselves to the departments of health in other cities. The report contains the results of experiments, together with illustrations, with the fluid vaccine and with the older "quill methods," showing the superiority of the former. Those portions of the report given over to statistics and chronological summary of the city mortality are thorough and carefully compiled.

Lippincott's Pocket Medical Dictionary.—

Edited by Ryland W. Greene, A. B., Editor of "Lippincott's Medical Dictionary." J. B. Lippincott Company, Philadelphia and London.

This handy little volume includes the pronunciation and definition of twenty thousand of the principal terms used in medicine and the allied sciences, together with many elaborate tables. The latter have been carefully arranged in a con-

venient form for reference and memorizing. All antiquated terms have been omitted. It is stated in the preface of this book that no pains have been spared to make the definitions of each word clear and sufficient. This is true of the greater part of the book, but, nevertheless, we have found some vague definitions, which we hope will be rendered more lucid in a future edition. For example under the word "Mal" we are told it means "illness;" *M. de mer*, sea sickness, but in the *mal de mer* part the author fails to explain that this is a French phrase, etc. Again, "malaise" is defined as meaning "uneasiness; indisposition." We are told, too, that "mandible" has reference to the inferior maxillary bone alone. An out-patient is defined thus: "A patient of a hospital not treated within the walls." This is entirely too vague and should be modified. A prism is defined as "a solid whose cross-section is triangular." Prism dioptry is written: "P. diopter," which is wrong. Barring the criticisms made, the book will commend itself to those desiring a complete pocket dictionary.

CORRESPONDENCE

The Right of Way for Physicians.

To the Editor of the A. M.-S. BULLETIN:

On page 241, issue of the 10th inst., under heading of "News," it is stated that "Louisville, Ky., has taken the lead in an ordinance granting physicians wearing a distinctive badge the right of way on the crowded streets."

Allow me to call your attention to the ordinance passed in Chicago March 9, 1896. We are furnished with a badge and a "Physician's Permit" giving right of way "as against all processions, bridges, vehicles and persons when proceeding to the scene of any accident or answering calls for his professional services." The "permit" also gives copy of ordinance. Our badge is round, one inch and a quarter in diameter, has a large red cross, number, and the words "Physician, Chicago."

It has been in use since passage of the ordinance, March 9, 1896. Very truly,

J. C. ALDERSON, M.D.

Chicago.

The medical faculty of the State University of Minnesota has decided to add a new course to the medical studies of that institution. As soon as the new term begins the senior class will have to take up the study of cooking. On the catalogue this study will be designated as that of Practical Dietetics. They will have to go into the laboratory and make soups, teas, gravies, farinas, and a host of other dishes for the sick and convalescent. One of the faculty lately said of the new departure that "It is a matter for congratulation that the medical educators are taking account of a need for a scientific study of these questions, as it is a matter for regret that our public-school educators do not yet give this study its proper place and importance in the curriculum of the trades. The time will undoubtedly come when it will be considered of as much consequence that a girl, or even a boy, should be taught the nature of foods and the principles of food preparation as that he or she should deal with the problems of advanced arithmetic or learn the elements of algebra."

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EDITOR'S NOTES

We wish to urge upon all of our readers the desirability of attending the next meeting of the American Medical Association. Any medical man who has never been in Denver in June, has a treat in store for him if he attends that he will enjoy most thoroughly. There is no other point in the United States where the meeting could be held that has so many charms to a stranger or so many genuine attractions. The excursions that are proposed take in some of the most wonderful sights in the world. Pikes' Peak, the Garden of the Gods, Cheyenne Canon, the Royal Gorge, Mount of the Holy Cross, and Denver itself are each separately worth the expense of the trip to see. If to these is added a trip to Salt Lake, through the magnificent and wonderful structures of Grand Canon, it will become the event of a lifetime. The writer has seen it all and speaks feelingly of it from actual knowledge. The various sections of the Association will meet in the Presbyterian, Episcopalian, Baptist, Congregational, and Christian churches, that are grouped together near the headquarters. About 2,000 members and delegates are expected to be present, and no pains are being spared in preparing for their comfort. The American Medical Association is the largest medical association on this continent, and every medical man in the United States

should join it. If medical men would unite through this association to fight for their legal rights and to beat down adverse legislation, it would be a grand thing for all. To grumble alone or to fight alone is to try like Mrs. Partington, to sweep back the ocean with a broom. Only by concerted action can we hope to compel respect, and through no other body is there the chance to get an approach to such action in its fullness. If the reader is not a member, he owes it to himself and to his fellow physicians to go to Denver and become one. Let all who go take credentials from their county society, showing that they are in good standing.

Science knows no creeds and welcomes every would-be worker for her advancement as a friend. Chemists are chemists and astronomers are astronomers. Professionals and amateurs work together for mutual good, even when they disagree on results. On this account the public have as a rule implicit confidence in what such scientific men tell them. The opprobrium of medicine has been the clashing of the sects. It is therefore a distinct evidence of progress to be able to chronicle the coming joint-meeting of the three hitherto antagonistic bodies of medical men at Topeka, Kan., in May. It shows that bias and bigotry are losing their power in the world. If jealousy can be kept down there can be no doubt of the benefit that must ensue from this gathering. It marks a new epoch in civilization and means a new doctrine of "peace on earth, good will toward all men." If only the sectarians can be persuaded to give up their sectarian designations and place themselves before the public as physicians only, a great stride will be made toward bettering the conditions of this world. Let this, the first armistice, prove a harbinger of permanent peace.

The antivivisection societies of the United States are making a special bid for medical support to their hysterical fad. They are bestowing the positions of greatest honor (?) upon renegade medical men whom they can persuade to join with them. They have placed an unknown medical man at the head of their national organization, and several youths "to fortune and to fame unknown" at the head of their State organizations. They know that a bribe of this character will carry great weight with mental pigmies, and so they bestow it freely. Not a soul among them has ever done a particle of original work in the advancement of medical science, yet the leaders have the effrontery to speak and write of them as

prominent medical men. The president of the Connecticut Humane Society in a late address said that "there are still professional men who insist that great benefit has accrued" from vivisection. Let our readers note the implied lie that shines through this statement. The implication is that only a few professional men hold to vivisection when the fact is that not one medical man in America of note has ever given the anti-vivisectionists the slightest support. Even the renegades are so few that they do not bear but a small fraction of 1 per cent. of the whole. The strongest medical backing for antivivisection comes from the irregulars. Indeed, nearly all of it is of this stripe.

PUBLISHERS' DEPARTMENT

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co. and Leased, Operated, and Independent Lines.

The office of general passenger ticket agent of this company makes the following announcement:

"CHUTMUCK SPECIAL"

AMERICAN MEDICAL ASSOCIATION, DENVER, COL.,
JUNE, 1898.

For the meeting of the American Medical Association, to be held at Denver, Col., in June, 1898, we take pleasure in announcing that the Missouri Pacific Railway has arranged to run a special through train from St. Louis to Denver, to be known as the "Chutmuck Special," making the trip via Kansas City, Pueblo, and Colorado Springs.

This will be one of the handsomest trains ever run in the West, consisting of Compartment Sleeping Cars, Dining Car, Buffet Car, etc., affording special accommodations for the wives and families of yourself and friends. Please remember this in making your arrangements.

Due announcement as to dates, schedule, etc., will be made later on.

H. C. TOWNSEND,

General Passenger and Ticket Agent.

B. H. PAYNE,

Ass't Gen'l Passenger and Ticket Agent.

RESINOL

The following letter was received by the Editor of the *American Gynecological and Obstetrical Journal*:

Sir: Unguentum Resinol, a product of the Resinol Chemical Company, of Baltimore, has of late been employed in the dermatological division of the dispensary connected with the Fordham Hospital, and has given general satisfaction, both as a direct application and as a vehicle for more powerful remedies. We soon became convinced of its marked antipruritic qualities, and finally relied upon it as our chief remedy for the relief of itchy conditions. In intertrigo, both of infants and adults, its healing and antiseptic power soon rendered the affected areas free from offensive discharge, and upon continued use invariably effected a cure. Great relief was afforded in a case of eczema madidans of the leg,

the application of Resinol proving to be soothing and protecting. This led to its application to burns, where it was found to be equally efficacious. With a mixture containing equal parts of resinol and Balsam of Peru we were enabled to successfully treat several cases of scabies.

Altogether we consider Resinol to be a remedy of considerable value and widespread indications in dermatological therapeutics.

J. D. MURPHY, M.D.,

Fordham Hospital, N. Y. C.

February 21, 1898.

PLATT'S CHLORIDES.

From "Some Points in the Treatment of Typhoid Fever," an article in March 12, 1898 issue of *New York Medical Journal*, by Dr. John A. Larrabee, Professor of Diseases of Children, and President of the Hospital College of Medicine, Louisville, Ky., the following is abstracted:

The multiplicity of unreliable disinfectants, and the common idea regarding any deodorant as a disinfectant, works much mischief, Dr. Larrabee is convinced. While disinfectants are multiplied beyond enumeration, the principle upon which their germicidal qualities depend remains the same. The agent, to be effective, he says, must liberate nascent oxygen in the presence of the germ. Nothing has yet been discovered as a dusting powder which can equal Chlorinated Lime. Laborraque's Solution of the Hypochlorites, and Platt's Chlorides are the best liquid preparations. Oxygenation by these, or actual combustion by fire, is alone to be thought of.

A GOLDEN ERA

This is the title of an illustrated pamphlet issued by the general passenger department of the Chicago, Milwaukee & St. Paul Railway on mining in Colorado, California, and other Western States.

KLONDYKE

is an illustrated folder about Alaska and its gold mines, with rates of fare and information as to how to get there and what to expect after arrival. Both publications may be had free of expense by sending four (4) cents in stamps to pay postage to George H. Heafford, General Passenger Agent, Chicago, Ill.

It is now Maryland that seeks to forbid the marriage of the insane and people with chronic ailments. A bill is under consideration in that State that calls for the examination of every candidate for matrimony by a board of competent physicians.

The Secretary of the Iowa State Board of Health was lately called upon to report upon the case of a leper living near Graettinger in that State. He advised the Legislature that there was no special need for their interference, but that there was much greater need for legislation for the suppression of tuberculosis than for that of leprosy.

The railway surgeons of the Southern States are endeavoring to establish a new Railway Surgeons' Association. They propose to secede from the National body, claiming that it is too cumbersome and has too many interests that clash with their own. Dr. C. M. Drake, President of the Association of Surgeons of the Southern Railway, is the moving spirit of the proposed new association.

NEWS

The American Medico-Psychological Association will hold its fifty-fourth annual meeting at St. Louis, Mo., from May 10 to 14.

The New Jersey Senate passed a bill appropriating \$15,000 for the establishment of a village for epileptics. It has been signed by the Governor.

The Committee on Labor of the Massachusetts Legislature is considering a bill for the shortening of the hours of work of nurses to twelve, and the forbidding their sleeping in the sick-room or even one adjoining that of the patient. Such a law would quickly do away with trained nurses.

A novel malpractice suit has been begun against two physicians of Findlay, O. Sixteen years ago they set the broken leg of Carey Hendricks, who was then five years old. He is now 21, and not liking the results of the work done so long ago, has begun a damage suit against them for the recovery of \$150 paid for the job and \$5,000 damages besides.

The Chair of Diseases of the Eye, Ear, and Throat at the Medical College of Virginia, made vacant by the death of Professor Charles M. Shields, will be filled at the annual meeting of the Board of Visitors of the College April 21. All applications, accompanied by credentials, should be forwarded to Christopher Tompkins, M. D., Dean, Richmond, Va.

On May 4, 5 and 6 the Kansas Medical Society will meet at Topeka with the eclectic and homeopathic State societies. They will hold their regular meetings in different halls, but on the evening of the 4th they will all meet together in the same hall to listen to the Governor of the State, the Mayor of the city and addresses by members of the three bodies on various medical topics.

The Peoria (Ill.) *Medical Journal* denounces Governor Tanner for violating precedent in making a clean sweep of the medical officers of the State regardless of fitness and wholly in behalf of politics. The editor says that "It is due the medical men of the State to know of these things, so that they may be able to 'play politics' more intelligently both inside and outside their own ranks."

Senator Page, of New York, has introduced a bill into the State Senate calling for the pensioning of all medical officers of State hospitals after passing a certain time in the service. Many of the papers of the State have pronounced it an unwise measure and one calculated to establish a precedent for the pensioning of every person on the civil list. They predict opposition on the part of taxpayers.

The Battle Creek Adventists are disagreeing about their college. Some of the managers want it turned into a medical from a general literary institution. Those in charge of the sanitarium are particularly anxious to see the change made, as they believe that it will be for the best interests of the sect. A motion to make the change was lately voted down, but it is expected that at the coming election of trustees the change will be accomplished.

The Denver papers are "red hot" against the management of the Arapahoe County Hospital. They say that patients are allowed to starve or die while nurses are off skylarking, that the attending physicians treat the patients brutally and that the smells are enough to drive an ordinary

man crazy. One escaped patient is reported as saying that he would rather die in the streets of Denver than in such a butcher-shop. The *Post* is particularly hot in its attack.

Memphis, Tenn., has been put in a ferment by the report that of late a large business has been done in shipping corpses from that city to medical colleges in different parts of the United States. Boxes containing corpses but labelled "Books" have been shipped from various small stations near the city to Northern medical colleges. The shippers chose the small stations thinking themselves freer from detection there than at a main station. The police have been keeping up a sharp watch for them during the past few weeks.

The *Troy Times* says that the new quarantine act, which makes the United States quarantine laws supreme over State laws when yellow fever or other epidemic disease has crossed the line of a State, was under discussion in the United States Senate yesterday and led to the bringing up of the question of State rights. Oddly enough, a Northern Senator, Sewell, of New Jersey, opposed the bill as an infringement upon the rights of the States, while a Southern Senator, Vest, of Missouri, favored it, and declared that the Federal Government is sovereign in relation to these powers.

The *Columbus (O.) Journal* says that Dr. Bennett, the member from Williams County, has prepared and will present a bill to the House in a few days that will compel all the graduates of all the medical colleges in the State to take, in addition to the examination required by their institution, an examination before the State Board that will not only cover all the work they have taken in the past year, but also all the work gone over during the entire course in college. In addition to this they will be compelled, it is said, to take the examination required by the State for their entrance into the college of medicine.

The Committee of Arrangements of the American Medical Association for the coming Denver meeting announces that it expects to be able to secure one-half rate for the round trip west of Chicago and reduced rates to Eastern points. The best hotel fixes its rates from \$3 to \$5 per day and upwards. The smaller ones offer rates of from \$1.25 to \$3.50 per day. Entertainments are being planned on an elaborate scale, and all who come are promised a good time. Dr. W. A. Jayne is Local Secretary, and Dr. J. W. Graham is Chairman. Applications for rooms are to be made to the hotels direct, but if any special information is wanted a letter addressed to Dr. Robert Levy, California Building, Denver, will be sure to supply it.

The *Troy Times* says that in consequence of the humiliating treatment to which assistant surgeons are subjected on entering the service, the Navy finds itself short of surgeons at a critical time. The Surgeon-General, has, therefore, recommended that authority be granted immediately for enlisting acting assistant surgeons for ships to be placed in service and on auxiliary cruisers that may be impressed by the government. There are already eighteen vacancies in the lower grade of the medical corps, and in the event of war the medical department would be seriously crippled. Even now there are not sufficient medical officers of the lower grades to meet the requirements of the navy, and the Surgeon-General recommends that the obnoxious regulations which have rendered the service so unpopular be removed, and at the same time that he be authorized to enlist any number of acting assistant surgeons deemed necessary.

American Medico-Surgical Bulletin

Vol. XII

NEW YORK, APRIL 25, 1898

No. 8

EDITORIAL

RECENT LITERATURE OF ANIMAL EXTRACTS —No. 1

IN 1896 two papers were published, one from the pen of Prof. R. H. Chittenden, of Yale, and one from that of Prof. H. C. Wood, of the University of Pennsylvania, analyzing and focalizing the world's literature upon the subject of the use of animal extracts for therapeutic purposes. The two papers were closely parallel, but one gleaned where the other failed to gather; and so together constituted a thorough exposé of the world's knowledge of the subject. In the present leader we desire to discuss whatever of novelty may have since been made out by clinicians and investigators, and shall take the various animal extracts in turn.

Thyroid Extract.—During 1896-97, although a number of papers were published in various parts of the world concerning the thyroid extract, nothing very startling or of prime importance was announced. Perhaps the most important matters were in connection with cretinism. The results obtained in Europe, Asia, and America were all concurrent, showing that cretinism is markedly ameliorated by the continued use of the remedy. Very interesting is the experiment made by Dr. J. P. West upon a cretin, as showing the truth of the proposition which has been especially insisted upon by Dr. Wood, namely, that in myxed-

matous diseases, and indeed in most other affections in which the extract is useful, it is not curative but ameliorative; that as it simply supplies the place of something needed in the system, its use should be co-terminous only with life; the symptoms being naturally expected to reappear so soon as the needs of the system are not artificially supplied. In Dr. West's case, after there had been enormous gain, treatment was stopped for one year, when the unfortunate child in appearance and condition passed back to the cretinous state, out of which she was again rescued by renewed administration of the drug. A case reported by A. Gordon Paterson, although not sufficient to prove anything, is extremely interesting in its suggestion. A mother had given birth to two cretins in successive pregnancies, and in the third month of her third pregnancy was put upon the use of thyroid extract, steadily maintained, until she gave birth to a very fine and intelligent infant, whose development has been so far normal.

In skin-diseases the use of the thyroid has rather lost than gained ground. It seems to be the universal belief among the dermatologists that psoriasis is about the only skin-disease in which the thyroid extract has appeared to be good in a considerable proportion of the cases.

Naturally enough in epilepsy the remedy has failed. In Basedow's disease the general verdict still remains that usually thyroid

extract does more harm than good, but singularly enough in a few reported cases absolute cures are said to have followed the use of the remedy. These cases are so few, however, as to suggest the explanation of a mistaken diagnosis. Nevertheless, in some instances, the symptoms seem to have been typical, as in the case reported by Silex (*Berl. klin. Woch.*, No. 6, 1896). The explanation at present is impossible. Can there be two distinct diseases having similar symptoms confounded under one name; or have the recoveries been simply coincidences, not results? In insanity the remedy has failed, except in very rare cases, and it is probable that, as has been suggested by Osler, in these cases some abnormality of thyroid function has been at the basis of the disorder. Lépine's observations of the pronounced effect produced by the extract in muscular dystrophy, seems to have met with no corroboration.

There has just appeared a very elaborate experimental article upon the thyroid body and its extracts by Dr. R. H. Cunningham, of Columbia University of New York, which must challenge the attention of the medical world, and which appears on the surface, at least, as though it would largely alter our present views upon the subject.

As long ago as 1895, Kocher, of Berne, suggested that the thyroid intoxication may be due to principles produced by the decomposition of the thyroid material; and later Lanz, as the result of experiments upon lower animals and men, concluded that there are two active substances in the thyroid extract, one a poison the result of disintegration, one a peculiar active body.

Dr. Cunningham states that from certain clinical experiments in 1893 he began to suspect that the perfectly fresh thyroid gland acted very differently from the commercial extract, and commenced a series of experi-

ments which have ended in the paper before us. As the result of these observations he believes he has conclusively demonstrated:

First, that the ingestion of very large amounts of finely minced fresh thyroid material gives rise to no intoxication whatever in man, monkeys, dogs, cats, rabbits, and birds, provided the digestive processes in the said animals be performed with the usual normal rapidity.

Second, that the stale material or the preparations that have been made from the thyroid, according to the methods usually in vogue, may or may not produce in certain animals the symptoms of an intoxication. In many instances the symptoms may follow even comparatively small doses.

The question which naturally suggests itself is, Has Dr. Cummings really proved the truth of these conclusions? Of course it is not possible within the space of a leader to go over the evidence which he brings forward in detail; it suffices to say that after careful reading of his experiments they seem to be conclusive in showing that the thyroid body rapidly undergoes change which makes it more poisonous, before this change has progressed so far that the senses or the ordinary methods of examination can reveal it. As an instance of the sort of evidence may be cited one experiment. Immediately after being taken out of the body, several sheep's thyroids were halved. Fifty grammes of one of these halves were immediately given to a rabbit with no subsequent ill effects. After the other half had been preserved in an ice-box for twenty-four hours, 50 grammes were given to another rabbit, which died during the night. •

In a repetition of this experiment, 30 grammes only of the material were given. The first rabbit showed no visible disturbance; the second rabbit went into a condition of dyspnea, with cyanosis, exopthal-

mus and coma, followed by death in twenty-four hours.

An observation made by Dr. Cunningham is especially worthy of notice, namely, that in experiments made upon cases of exophthalmic goiter, large quantities of several fresh raw thyroid glands did not produce any increase of the symptoms of the disease or other disagreeable effects.

Considering the conclusions above given as demonstrated, the question naturally arises, are there really two substances in the thyroid extract, first, the active principle of the thyroid gland, whatever it may be; second, the toxic principle produced by change in the thyroid after death? Or is the active principle produced in the thyroid body after death by an enzyme precisely as hydrocyanic acid is formed out of amygdalin in a bitter almond under the influence of emulsin and water? This view of the nature of the active principle of the gland is not a new one, having been put forward at least as early as 1892, and having been held by White and Davies, by Greenfield, by Notkine and other investigators. In the light of Baumann's work the theory of an enzyme seems, however, improbable, and in fact Cunningham himself believes it to be untenable.

In a series of experiments Dr. Cunningham found that an intoxication strikingly similar in every respect to that of experimental thyroidism may be produced from many substances derived from stale animal tissues; a conclusion which would indicate that toxins or ptomaines or other post-mortem products are the cause of the toxemic symptoms following in man the ingestion of the thyroid extract, and constituting the condition known as thyroidism. Such conclusion, if it be true, does not prove that these various meat extracts are capable of producing the same results in diseases that have been obtained from thyroid extract, but

only that clinicians have been mistaken in believing that the power of producing thyroidism is a measure of the therapeutic value of the extract, or has any relation whatever with the remedial powers of the extract. It would be strong evidence in favor of the existence of at least two active principles in the thyroid extract, one curative, one toxic.

In a further series of experiments the results obtained by Dr. Cunningham are even more startling than those just described and seemingly more directly at variance with clinical observation. Contrary to the results reached by Breisacher, in 1890, Cunningham finds that it makes practically no difference whether the thyroidless dog be fed upon ordinary raw meat or upon milk: also, that it is not possible by giving large amounts of fresh thyroid material to distinctly delay the coming on of the thyroid cachexia after thyroidectomy; and that the dried commercial thyroid preparations, as well as similar extracts prepared by Dr. Cunningham himself, instead of delaying the cachexia, hasten the development, at least, of its severer symptoms; and that even the hypodermic injection of these extracts hastened rather than delayed the fatal result; so that no totally thyroidless dog lived longer than eighteen days.

The beneficial effects of thyroid extract in myxedema and similar conditions appear to us to be an established clinical fact, not to be put aside by any physiological evidence derived from experimentation upon lower animals. Beef and other forms of flesh extracts are and have been used for many years in the sick-room in all variety of administrations and in all sizes of doses; and if it were possible with them to cause thyroidism it seems to us that this state would have been produced frequently; but we know of no clinical results whatever indicating that the congerie of symptoms, so marked and

characteristic, have followed the ingestion of these flesh extracts and preparations. Bouillon and thyroidism ought to go together as the spring and rivulet flow unbrokenly. Certainly, then, there is an apparent absolute contradiction between the results of Dr. Cunningham in the laboratory and the results of clinical observation upon the sick. When such a condition of evidence exists, it is necessary first, to challenge the accuracy of the observations upon the sick and in the laboratory; second, if these be sustained, to endeavor to make out what is the reason of the apparent diversity since clinical and physiological evidence always will when properly worked out be in accord. This we consider to be an axiom: nature is not chaos.

It must be further noted that the results obtained by Cunningham are very different from those of the older observers, and also that there is apparent failure of consistent accord in Cunningham's own memoir, for he did succeed in separating from fresh thyroid gland a gummy, waxy substance, which "even when injected in comparatively small doses of the 2-per-cent. solution * * * into totally thyroidless dogs appears to exert a most decided effect upon the course of the cachexia and the severity of its symptoms"; notwithstanding which the dogs all died in from ten to eighteen days. Moreover, Cunningham himself states later in the paper that one grain of thyro-iodine, prepared according to Bauman's method, given in the daily dose of one grain, had a seemingly pronounced effect in the reduction of a goiter.

The question now naturally arises, is it possible to make out the reason of these discrepancies? Of course this cannot be done with positiveness without further experimentation, but it does look as though Dr. Cunningham had mistaken similarity for identity in his comparison between the

effects of thyroid extract obtained from stale glands and from extracts obtained from meat; and further, that the reason of the differences between his experimental results and those of his predecessors is to be looked for in the severity and extent of his operative procedures. He was especially careful to remove "by careful dissection of the thyroid and aortic regions" the parathyroid glands or bodies, and also certain "tiny pale-reddish globules from 5 to 1 mm. in diameter," doing this upon the theory that these bodies are all portions of the thyroid body, and that therefore unless they are thoroughly removed the animal is not thyroidless. This seems to us to be at best only a plausible assumption, since it is entirely possible that these bodies have different functions from the thyroid. It may well be that they exert a parallel but diverse influence or form an active principle entirely different from that produced by the thyroid body itself.

To any of our readers who have time and opportunity, we would like to make the suggestion of the value of a series of experiments of keeping a man for one week upon beef extract, noting the symptoms that follow, the effect upon the weight and strength, blood-constitution and renal secretion. It would be a most valuable practical research, not only in relation to the present question but to many others.

THE QUARANTINE QUESTION.

THE experience of the South with last year's epidemic of yellow fever and the prospects of another invasion during the present year have made the subject of quarantine one of immediate interest to medical men, and particularly to health-officers. The port of Havana has for many years been known as probably the worst menace, so far as yellow fever is concerned, in the whole civilized world. Only one

other place, Rio de Janeiro, approaches it in this kind of reputation. What Bombay now is to plague, and Calcutta to Asiatic cholera, Havana is to yellow fever. If for no other reason than that we could clean out so filthy a sink-hole of disease the world should be thankful to have Americans invade Cuba. As long as Spain holds Cuba nothing will be done to protect the rest of the world from repeated invasions of its filth-fed disease. We might go on quarantining our ports forever and year after year have the same conditions of danger threaten us. Wooden ships lying in the harbor of Havana for a week or two come away with infected bilges and pantries. Travellers, who themselves may escape the disease, will, if exposed, carry away the infection in their garments.

Whether the bacillus of Sanarelli, the ameba of Klebs, or some as yet undiscovered micro-organism, is the cause of the disease, is of less importance just now than the determination of the best means of arresting its invasions of this country. Until the specific organism has been isolated, cultivated, studied and its life-history completely recorded, we must be content to fight it with the best knowledge at our command.

Dr. Klebs, in a late issue of the *Journal of the American Medical Association*, presents a few very important facts regarding the methods of dissemination of the disease that should be weighed carefully by the health-officers at our Southern ports before they make any further attempts at pursuing the usual methods of quarantining passengers and goods. He shows that the disease is transported by sick people and not by merchandise, that it does not exist in the air, that its contagion, though emanating from individuals, must be deposited in their surroundings before it can infect other individuals, and that in

many places it develops very slowly. From these facts he concludes "that the disinfection of the sick and their surroundings is fully sufficient to destroy the germs and check the disease."

Dr. Klebs does not believe in quarantines. Why yellow fever should create so panicky a feeling in the average American is a mystery. As a disease it is not as serious in the long run as consumption. Under very little care it soon dies out completely, never again to recur except by importation. Its ability to spread in this country is far inferior to consumption or small-pox. Our fear of it is responsible for suffering and trouble that is wholly unnecessary. It should be the duty of medical men to allay this fear and not to encourage it by wild, unnecessary, quarantine measures. If there was no quarantine there would be no panic. If medical men did not lose their heads the public would not. It is stirred up by the sensational reports of the newspapers, which get their ideas from medical men and boards of health. There is no evidence that a single measure adopted last year in the hysterical attempt to beat back the epidemic lessened the cases by a single one or affected it beneficially in the slightest degree. To attempt to tie up whole families because a single member of each has the disease, or to quarantine all the inhabitants of a house or town is sheer folly. The keeping of refugees from an infected town out of a non-infected one is impossible. Even if they should be kept out there is no assurance that the disease could not gain admission. As the disease develops slowly in many instances, it is altogether likely that the germs gained entrance before the panic arose. The whole country is likely to be infected and mild cases to have occurred before any person would think of quarantine. To permit the well to pass and exclude the sick is not protective.

Only by absolute, perfect exclusion established immediately on the advent of the disease from abroad, could there be any hope of protection. To permit any one to enter from any direction is to take chances of becoming infected. The well or apparently well can carry the germs and not be affected themselves. Contact with the sick or with those who have been with the sick does not give yellow fever. The germs must first be sown in a suitable soil, where they must grow before there is danger. No well-informed sanitarian now believes that quarantining ever protects any community from imported disease. It creates a false security and prevents the proper application of true measures. To isolate the sick in the care of nurses, to take proper precautions to destroy or disinfect the vomit, sputum, and excreta of the patients, and to watch all newcomers from infected ports, seeing that they are isolated in this manner, should they become sick is all that can reasonably be done to protect the public.

At the beginning of the present century it was a very common thing for those deemed quite intelligent to put reliance upon a cross drawn with tar on the barn-door as an adequate defence against cattle-plague. There are still people who think a room is sufficiently disinfected if a rag is soaked in a mild antiseptic solution and hung up where it can freely evaporate. There is as little reason for believing that the usual methods of quarantine against yellow fever are successful in accomplishing what they pretend to accomplish. Let any reasonable sanitarian imagine our quarantining against influenza or typhoid fever by any of the usual measures, and it will at once be apparent to him that the thing cannot be done and the attempt is little more than a farce. Here, as in all other established habits, "faith, fanatic faith, once wedded fast to some dear falsehood hugs it to the last."

What cannot be cured must be endured. We cannot stop the entrance of this disease into our ports, try as we will. Our measures then should be directed toward unfitting the country for its growth. Give it no chance to develop here and it will die out as fast as it comes. If, as Sanarelli says, there is a special fungus necessary to prepare the way for the growth of the true germ of yellow fever, then let us destroy the conditions that enable this fungus to grow. Let us put ourselves on the same plane of intelligent action in this matter as our English and German cousins have done. They have lost all fear of dangerous invasions of epidemic diseases from abroad. As soon as a case appears they treat it rationally instead of going crazy over it and stopping all business. We have placed ourselves in this matter on nearly the same level as Spain, Turkey, and other semi-civilized countries. The world is rapidly growing away from such crude ideas, and with the advent of every new fact of bacteriology bearing on the question, the evidence becomes more and more convincing that our old notions in this regard are all wrong. It is about time that we had outgrown all such effort as that contemplated by the Caffery bill wherein it aims at giving the Marine-Hospital Service the privilege of quarantining our coast.

It is bad enough to have sensational newspapers advocate measures of this kind, but medical journals should stop it. The little bit of false *éclat* which the profession occasionally gains from supposed skill in keeping out epidemics does not pay for the reverse effect of failure. The innocent health-officers of New Orleans had to suffer because they were not up to what the public had been led to expect of them. To-day those in charge of New York harbor are in honor, to-morrow the hand of fate may disgrace them.

AMONG THE EDITORS

THE DOCTOR'S INCOME

A variety of causes have combined to lessen the doctor's income to a degree very marked during the past two years. The general business depression, with its lessons of economy, does not alone account for the condition; nor does the abuse of dispensaries and hospitals. We also endured the counter-prescribing of druggists and the drain of the patent medicines for long years without feeling the present amount of inconvenience. The blame cannot all be placed upon overcrowding of the profession nor to the multiplication of sanitariums, nor to the prevalence of quackery, nor to lodge-doctoring and similar forms of contract doctoring which disgrace the profession and lessen its legitimate income. These and other factors have been at work, some for long periods and others but recently, and have culminated in a condition neither comfortable to endure nor pleasant to contemplate. One other factor than those mentioned and perhaps more potent than any of them, although we hear less about it in this connection, is the advanced skill in the treatment of disease and its prevention. Never before in the world's history was so much done to prevent disease—to limit its dissemination. The fact of the distinct lessening of disease, and with it a lessening of the need for the doctor's services, is capable of mathematical demonstration. The facts are undisputed.—*Cleveland Med. Gaz.*

MEDICAL DEGENERACY

The persecution of Dr. Cleveland, of New York, but shows how fast the medical world is forgetting the Christian maxim, "Do unto others as you would have them do unto you."

Accused of having caused the death of a 6-weeks-old child, by the administration of salol and resorcin, he has been arrested and indicted for manslaughter, and many physicians have gratuitously spoken out against him, basing their opinion on the mother's *ipse dixit*. What is to become of

us if we will on every occasion turn like wolves to rend the fallen? Are the rest of us infallible? Can it be possible that we never err. It is the opinion of the *Monthly* that such treatment of a physician by his fellows is infamous and cowardly. We all know how delicate a piece of mechanism a 6-weeks-old child is, and how even the masters of pediatrics have been baffled and have made mistakes. Yea, and know how even these same soi-disant judges have made mistakes. To arraign Dr. Cleveland before a court as a murderer is bad enough, but when the principal witnesses are self-appointed, and men from the ranks of his own profession, who should be his friends, it is outrageous and unnatural.—*Louisville Med. Monthly.*

ARE WE TO HAVE OSTEOPATHY IN NEW YORK STATE?

Quacks have always existed, and the prediction may be safely made that they always will exist. People willing and eager to be deceived abound everywhere, and it is by playing upon this well-known human weakness that the end-of-the-century charlatan is able to demand and receive such preposterous prices for his worthless "nostrums," and at the same time rob a too-confiding public and the unfortunate doctor. To this condition of things the medical profession as a rule submits as a matter of course and endures with stoical philosophy; but the enterprising Christian scientists, faith-healers, professors of osteopathy, purveyors of ointments and pills, and the other members of the irregular fraternity are not content with the scope of their present field of action. It is too restricted for the exercise of their abilities, and now, forsooth, they have the audacity to demand protection by law!

With this object in view, a bill has been introduced into the legislature of New York State to regulate and legalize the practice of osteopathy. This bill has been drawn with much subtlety, and is well calculated to delude the unwary into the belief that osteopathy is a more or less legitimate branch of medical science. For instance, a portion of the bill reads as follows: "Any person having a diploma or certificate of qualification regularly issued by any incorporated

and regularly conducted school of osteopathy, and who shall have been in personal attendance as a student in such school for at least four terms of not less than five months each before receiving such diploma or certificate, shall be authorized to treat diseases of the human body according to the osteopathic method." In fact, this is a bold attempt, on the part of persons who have received no regular training, to creep in by a back door, in order to share in the privileges now granted only to those who by a long course of study and by passing severe examinations have proved themselves capable of treating human diseases.—*New York Medical Record*.

TOUGH QUESTIONS

We learn that an injunction against Dr. Lowery, of Nashville, Tenn., has recently been granted, restraining him from further practice at the City Hospital. In order to determine the doctor's fitness for continuing his career at that institution an examination was given him, and among the questions asked we are especially struck with the following: "Give the branches of the posterior division of the abdominal aorta; give the branches of the superior carotid artery; describe and give the branches of the axillary artery; give relations of structures which pass behind the sustentaculum chyli; give number of fibers in the great sciatic nerve and their ultimate distribution; give apparent and deep origin of the solar nerve, and its foramen of exit from the calvarium; give origin, exit, and distribution, of seventh nerve; what important nerve-center is located in the fissure of Randolph; give origin, insertion, relation, and innervation of the erector pilatae muscle; describe and locate the histerogenic points of valleix."

Very fascinating questions, all of them, and we are pained to note that the doctor failed to pass; as it is of course only by the ability to answer such practical every-day questions as they constantly arise in a man's daily practice that his fitness for his hospital work can be adequately judged. Our sympathies, however, go out to the doctor, and we trust he may have the sustentaculum chyli and the histerogenic points of the

valleix at his tongue's end by the time he has finished another dozen years of conscientious work in his profession. It is said that the doctor proposes to fight.—*Medical Standard*.

WHAT IS FAME?

A correspondence, which doubtless will be highly amusing to Mr. Frederic Treves, is at present in progress in the pages of the *Journal of the American Medical Association*. Two practitioners have been and are discussing the subject of appendicitis and its treatment, and they differ. In a recent communication one of them, in support of his contentions, aspired to silence his opponent by quoting Mr. Treves. But the effect was scarcely that which was expected. The opponent reported by saying "my friend quotes Treves and Talamon, both of whom have had limited experience with the operation of appendicitis, and whose opinions should not count alongside of such men as Robert Morris, J. B. Murphy, Joseph Price, Fowler, and Deaver, men who have had hundreds of operations and seen the terrible results of procrastination." Again, the writer adds, "my friend will accept the dictum of a general surgeon with a very limited experience in abdominal surgery, like Treves, or some young man, also with a very limited experience, like Talamon, while I prefer the views of men who have operated on a couple of hundred cases each, like Price, Deaver, Murphy, Fowler, Morris and others." After this, English surgeons who have ventured to admit that they have operated upon appendicitis cases will have to hide their diminished heads. In passing, however, it might be observed that if the capacity of a surgeon is merely one measured by the numerical index of his operations, then competition with a "great country" like America is quite impossible. But it is worthy of note that soon after appendicitis was discovered it became in the United States a new disease. Judging from the literature upon the subject, we suppose that it has since become hereditary; for to be fashionable in America every one must have had appendicitis and have been operated upon.—*Medical Press*.

CURRENT TOPICS

BIRDS AS SURGEONS

Some observations in regard to the treatment of wounds and even fractures by the feathered creation were (according to *Good Health*, Vol. XXXIII, No. 2, 1898) recently brought before the Physical Society of Geneva by M. Fatio. The case of a snipe had come under his notice, of which he says that with its beak and feathers it made a very creditable dressing, applied plasters to bleeding wounds, and on one occasion secured a broken leg by means of a stout ligature. He once captured a snipe which had on its chest a large dressing of down taken from its own body, and fixed to the wound by the coagulated blood. Twice he brought home a snipe with interwoven feathers strapped over the site of a fracture of one of its legs.

M. Magain records a case in which a snipe, observed to fly away with a broken leg, was subsequently found to have forced the fragments into a parallel position, and secured them by means of a strong band of feathers and moss intermingled. The observers were particularly struck with the application of a kind of flat-leafed grass which was wound around the leg spirally and fixed by means of a sort of glue. S.

SOLUTION OF THE PROPRIETARY-MEDICINE QUESTION

Dr. C. C. Fite, in the *Phila. Med. Jour.* (March 5, 1898), discusses this question in an interesting and instructive manner. He says that if the profession would agree to make a clear distinction between legitimate pharmaceuticals, the method of production of which is well known, and to which no secrecy is attached, and those nostrums, the composition of which is kept a secret, and most of which are not produced for the physician's use, but go directly to the public, it would be an easy matter to settle the question. The distinction can be readily made. If the secret preparations that are vaunted by manufacturers and advertised to the laity as cure-alls were more distinctly and pointedly condemned by the profession, they would not have such a large sale; but as every one knows, a great many members of the profession constantly prescribe them, in spite of the fact that they do not know their composition, and that the owners of them constantly go over their heads to the public.

After much careful study of the subject, he comes to the conclusion that the action of the American Medical Association really

indicates the solution that he would suggest. When the trustees took steps to eliminate objectionable matter from the advertising pages of the journal of the association, some of the extremists in the association endeavored to get rid of advertisements of all proprietary and trade-mark preparations, but it did not take much investigation to discover that this would not only practically close up the advertising department of the journal, but it would also be an assault on preparations prescribed daily by the best members of the profession all over the country. Therefore, the sensible conclusion was reached that only preparations, the composition and correct formulæ of which were given, would be admitted and so, after all, the question has been settled, whether we admit it or not. This action of the trustees of the journal is the only sensible one that could have been reached, and it is only a question of time when the code of ethics of the association will be modified to meet the facts as they are. As it is now, the code of ethics claims one thing and the profession is universally doing something else, and we must make up our minds that the code, as great as it is, should not be regarded as a divine ordinance and not subject to amendment.

After referring to the action of the Pennsylvania State Medical Association in 1887, wherein by resolution they denounced all proprietary and copyrighted preparations, and recommended the prescribing of only official preparations, he presented the views of Dr. Chas. Rice, chemist of the Department of Charities of New York City, in which a distinction is made between unobjectionable proprietary preparations, those of doubtful value, and those that are distinctly objectionable. The latter are the secret nostrums, while the first-named are useful, legitimate preparations, the origin and composition of which are not kept secret. After commending an editorial in the *Philadelphia Medical Journal* on "Secret and Proprietary Preparations," he says: "It is well to consider at this point the fact that the profession often loses sight of, and that is, that the competition that the regular profession met with about forty years ago from homeopathic practitioners made it necessary to give more attention to the preparation of remedies. The old nauseous, bulky doses had to be thrown aside, and more concentrated, palatable, and elegant preparations provided. The manufacturing pharmacists of the country quickly recognized this demand, and millions of dollars of capital are to-day invested in this line of business, and it would be absurd to expect these great houses to make such invest-

ments unless there was some degree of protection provided. This we find in the trademark law, which, if properly used, guarantees to the investors the expectation of a reasonable return for their outlay, and the profession can and does regard the standing of these houses as an ample protection to them, and as a guarantee that these preparations, provided for their use, will be honestly and accurately made.

"It is no longer possible for the retail pharmacist to prepare many of these preparations, as some of them can only be manufactured economically enough to be used at all with plants costing many thousands of dollars and requiring skill of a high order. Therefore, we see that this problem has been settled in another way with the natural course of events. It is perfectly useless to combat this development of the manufacturing pharmacist at the expense of the retail druggist. It applies to every industry, and is a wave so forceful that he who tries to stem it is lost. Comparisons could be made in every line of business, but as they will readily occur to all who give the matter thought, it would be useless to do so. Ninety per cent. of the best men in the profession daily prescribe proprietary preparations; and, in fact, it would almost be impossible for a man, however talented, to succeed as a practitioner in these modern times, who did not take advantage of these newer and valuable additions to our lists of remedies. I am sure none who read these lines would be willing to employ as a family physician a man so hidebound that he would cling to an ancient fancy and not do his very best for a patient and use the best-known remedy for the patient's relief.

"The Pharmacopeia will sooner or later have to recognize the facts as herein given, and unless this is done, it will be used less and less, until it finally becomes merely an ancient-history landmark, 'telling us of the things which were, but are not.'"

WHAT HAPPENS TO YEAST WITHIN THE ORGANISM

Gilkinet published in the *Arch. de Med. Experim.*, as abstracted in the April number of the *Bulletin of the Pasteur Institute*, some interesting studies upon the fate of yeast after its introduction within the organism. He recalls the experiments made by Popoff. The latter employed compressed yeast, of which he made an emulsion in water, which he injected in the veins, in the subcutaneous cellular tissue or in the serous cavities. The results he obtained were as follows: In dogs death occurred in from two to twenty-four hours with symptoms resembling those of septicemia. Smaller amounts caused less

severe symptoms, and some of the animals recovered. But Popoff acknowledged himself that his cultures were far from being pure, and found that the yeast-cells themselves rapidly disappeared from the organism.

Falk later on took up this subject, but proceeded in a more careful manner, and never saw any pathological results other than a few which arose from capillary embolisms due to the choking of some small vessels by the yeast-cells, and while he admits that the yeast maintains its fermentative power within the organism, he believes that this power rapidly diminishes, and suggests that it would be of interest to study the ultimate fate of the yeast-cells within the organism.

Dr. Gilkinet has endeavored to solve this problem. He obtained pure cultures of the yeast-cells, of which he made an emulsion in sterilized broth. Three rabbits were injected, in the marginal vein of the ear, and remained in excellent health. After a lapse of twenty-four hours one of these rabbits was killed, and none of his organs showed the presence of any yeast-cells. The other rabbits, killed after three and five days respectively, also gave an entirely negative result. A dog was then experimented on and showed no symptoms whatever, remaining in good health for four months. Other rabbits, three in number, were again inoculated. One of these was killed six hours after the inoculation, and while his organs showed no blastomycetes under the microscope, fragments of his organs placed in malt water caused fermentation after the lapse of six days, yeast-cells being abundantly found in the culture. The two other rabbits, killed after two days and five days, gave no yeast-cells under the microscope, and did not give rise to fermentation. In the first of these three animals it is evident that the organs still contained yeast-cells, but that they were so few in number that they could not be found by the microscope. It is also to be observed that they were never found in the urine.

What is the cause of this rapid destruction? It is not the body-temperature, since cultures kept at the same temperature are found to thrive. It is not due to the alkaline reaction of the blood since liquids of the same degree of alkalinity have no bad effect upon them.

The serum of animals experimented upon, and employed outside the body, causes destruction of the yeast-cells, by some specific action inherent to it. It was shown by a long series of experiments that leucocytosis played no part in the destruction of these cells.

SELECTED PAPER

PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART*

By **SIR R. DOUGLAS POWELL, Bart., M.D., F.R.C.P.,**

Physician Extraordinary to Her Majesty the Queen;
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THERE is, perhaps, no branch of medicine in which, notwithstanding much knowledge, the confidence of the practitioner is so easily shaken, and in which he is so apt to relinquish the courage of his opinions, as in heart-diseases; and there is none in which the public, who treat their hearts with too much respect and their nervous system with too little, require such firm and steadfast guidance at the hands of our profession.

In my endeavor to lay down the lines of treatment of heart disorders and diseases, I will first speak of such modifications of the cardiac functions as are the result of disturbed or even organically changed innervation of the heart and vessels, the heart itself being sound. Secondly, I must glance at similar disturbances of extrinsic sources as they affect an unsound heart. Thirdly, I will endeavor to group, from a therapeutic point of view, the intrinsic disablements and diseases of the heart mainly under the headings:

1. Of heart-failure in acute disease.
2. Of cardiac overstrain.
3. Of chronic heart-failure.
4. Of acute inflammatory cardiac affections.
5. Of chronic valvular affections of the heart.
6. Of ulcerative diseases of the endocardium.

In order to understand, so far as it is at present possible, functional diseases of the heart, and to arrive at a point from which we may safely take further steps in their apprehension, we must have clearly traced in our minds the paths of direct and indirect cardiac innervation and the vasomotor nerve-mechanism.

It is impossible to isolate the heart from

the vessels when thinking of its functional disturbance; we must look upon the cardio-vascular system as a whole. With considerable accuracy the blood may be said to be held in the grasp of the cardio-vascular tubes; that the blood-current is maintained and directed by the rhythmic pumping action of the two ventricles and by the position of the valves. The tendency is for the muscular arterial system to evacuate all the blood into the lax and capacious venous system, but the due proportion of blood distributed to the arteries and veins is secured by the controlling action of the small vessels which regulate the flow through the capillaries.

NEUROSIS

There are unquestionably a large number, perhaps an increasing number, of people who are morbidly conscious of their heart's action—indeed, of the function of their cardio-vascular system generally or in particular parts. They feel disturbances, flutterings at the heart, throbbings, flushings, pallors of the surface or parts of the surface, or of particular organs, noises in the vessels about the head, and apart from, and in the intervals of these more definite sensations, they have a sense of their heart beating, and appreciate sometimes a disorder, an intermission, or a faintness in its action. This condition, or group of conditions, and the thousand and one variations to which it is subject, is the result of purely nervous disorder.

It occurs in people of both sexes, mostly young people between puberty and thirty, of nervous inheritance, or who have exhausted their nervous system in various ways by dissipation, excess of tobacco, alcohol, venery, or over-pressure of brain-work.

It is amongst the class of so-called "neurotics" that functional disorders of the heart so largely abound. A neurosis is a functional as distinguished from an organic disturbance in a nerve-center, and the disturbance is generally manifested as a hyperesthesia.

A neurotic person is a person whose whole nervous system, and especially that portion of it known as the organic nervous system, is hypersensitive and abnormally

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within his cognizance. "Neurotic" is sometimes used as a term of reproach; it is often confounded with hysteria, which is indeed one of its lesser manifestations. It is a condition of nervous system sometimes acquired but more often hereditary, very widely prevalent even in our cold-blooded race, and which is perhaps a national characteristic in some brighter climates.

Although the attentive observer could at sight pick out from a crowd of persons the two or three neurotics present, he would be much puzzled to give his reason for so doing. Perhaps an indefinable alertness of the facial muscles, a quickly changing expression, a mobile and slightly contracted pupil, with increased sclerotic exposure, are the characteristic features. These persons have a quick circulation, a somewhat raised and variable arterial tension, their thermic centers are unstable, and temperature-charts with them have to be discounted. Neuralgic affections are common, and amongst them and in their families will be found the other functional nervous complaints—migraine, epilepsy, asthma, hysteria, and the visceral neuroses so well described in this place by Professor Clifford Allbutt. From the social side they are delightfully portrayed in some of the stories of a member of our college, under the pseudonym "Philip Lafargue."

FUNCTIONAL DISORDERS

Functional disorders of the heart are sometimes due to a defect in the organ itself; more commonly they are caused by stimuli reflected from distant organs or parts, generally dependent upon morbid states of the blood, circulating through the heart or disturbing the centers of its nervous mechanism, an acquired or hereditary instability of the nervous system being often recognizable.

In endeavoring to lay down the lines of treatment of functional disturbances of the heart, we must hold in comprehensive review the vast tangle of circumstances which thus influence directly or indirectly the now sufficiently well-defined cardiac innervation.

In the following table I have endeavored to summarize the causes of that want of stability which marks the function of the neurotic heart:

TABLE I

Cardio-vascular neurosis. Definition: An increased sensibility and a disordered action of the heart and vessels, not dependent upon structural change.

Want of stability may be located in the cardio-vascular muscle caused by:

1. Malnutrition .. Anemia.
2. Defective metabolism { Fatty infiltration.
Retention of effete materials.
3. Morbid blood-stream { Gout.
Renal or liver inadequacy or surcharge.
Anemia.
4. Functional overstrain .. Fatigue.

Want of stability may be located in the nervous system, and due to

1. Toxic influence { Specific pyrexias.
Nicotine.
Alcohol.
Digitalis.
Uric acid and its allies.
Excessive absorption from ductless glands.
Deficient absorption from ductless glands.
2. Reflex excitation or depression { Abdominal { Gastric.
Renal.
Intestinal.
Hepatic.
Pelvic.
Dental.
3. Direct excitation or depression { Emotional { Anxiety.
Fear.
Anger.
Brain-disease or injury { Concussion,
Compression,
Meningitis,
Cerebritis,
etc.

CARDIO-VASCULAR HYPERESTHESIA

The first degree of this condition, consisting of undue appreciation of the heart's action and the blood circulating through the vessels, is extremely common in nervous introspective people. The heart's action may be quite normal, but it is liable from slight causes to become paroxysmally excited and accelerated. The pulse-tension is variable. I have described instances of this degree of cardiac disturbances in a brother and sister whose father died insane, their mother of spinal paralysis, their grandmother was on the verge of insanity, and the brother highly neurotic; but alcohol, social, tobacco excesses, and mental overwork will produce the same effect.

The next degree is that in which the heart's action is really oppressed to a point varying from a mere vague anxiety to a positive discomfort and onwards to the third degree, the acute suffering of angina. These persons may not be introspective; their attention is not concentrated upon their circu-

lation, but is compelled thereto by actual discomfort or pain. The vague and ill-defined anxiety centered about the heart, of which so many of these patients complain, is closely allied in character, and probably in mechanism, but in very mitigated degree, with that cardiac terror so characteristic of angina pectoris. The usual symptoms of increased arterial tension are present, and are to be traced to the usual causes of that affection—namely, mental shock, anxiety, hurry in work, sedentary lives, numerous and overlapping social functions, constipation, the threatening of a gouty storm, etc. There is no cardiac lesion necessarily present, although, as we well know, chronic high arterial pressure will in time lead to, and is often attended by, gradual cardiac changes of a degenerative kind.

It is from amongst the first two classes of cases, not distinct but merging into one another, here referred to, that the cases of vasomotor angina come. It is not difficult to see how shock, chill, emotion, dyspeptic distension of nerve-endings, and other causes, referred to in Table I, may so increase arterial resistance as to cause cardiac embarrassment and anginal pains. Paroxysmal attacks of palpitation or tumultuous action of the heart are not uncommon incidents in connection with especially the second degree of cardio-vascular neurosis described, the attacks being attributable to sudden vasomotor relaxation of the vagus-irritation from dyspeptic or gouty causes.

The first degree of cardiac hyperesthesia is most common in young adult life in both sexes, but more common amongst males than females; cases are not infrequently met with in females later on about the menopause, or even later in life. Those in the second category are far more common amongst males, and prevail most from about 35 to 50.

The perverted physiology of neurotic disturbances of the heart and vessels is well understood, the paths of transmission are anatomically marked out, the causes of disturbances of central origin, those originating in irritation of visceral or peripheral nerve-endings, the toxic effects of undue absorption from glands, thyroid, adrenal,

ovarian, testicular, as well as those of retained excretory products, from defective elimination or over-production, are all recognized as more or less potent factors in cardio-vascular disturbances; and finally the effects, immediate or remote of drugs: digitalis, atropine, tobacco, the whole range of hypnotics and analgesics, cocaine, antipyrin, phenacetin, sometimes prescribed by the medical attendant, but sometimes taken without his sanction. It is very difficult precisely to formulate the harm done by amateur drug-taking for pain, sleeplessness, and spasmodic suffering. It seems to me that it may be clinically summarized by saying that the controlling centers of the nervous system suffer chiefly, emotional disturbances are more easily excited, reflex agitation is less controlled, the cardio-vascular and thermic centers are diminished in tone. No doubt those innocent and attractive little bottles of tabloids which are so freely scattered on the toilet-tables of society have much to do with the increase of the neurotic disturbances of the heart and vessels, which unquestionably is a medical feature of the present generation. A neuralgia which in former days necessitated the called-for nerve-rest is now promptly subdued by a dose, and the patient is enabled thus far to take a further step in nervous fatigue without direct suffering.

Neurotic persons as a class take too little food, are always hurried over the meals and in the details of life; they eat too fast, and have a tendency to exceed in nerve-stimulants—tea, tobacco, alcohol and certain drugs—or they find their excitement in social entertainments.

It is in all cases essential to make a thorough examination of the heart, and to come to an absolute diagnosis, for the treatment rests largely on moral grounds, and must be supported, if possible, by an assurance of physical soundness. If on careful examination the position and dimensions of the heart be found normal, and the character of the impulse and sounds be such as are not incompatible with textural soundness of the valves, an absolute opinion can be expressed. There is undoubtedly room for anxious consideration and hesitation in

regard to the character of the impulse and sounds of the heart in many of these cases, for the impulse is often violently increased and apparently extended by undue locomotion of the organ, and the sounds are perhaps disorderly, reduplicated, and not infrequently attended with murmurs. Still, a careful investigation, selecting a time when the action is more tranquil, will in most cases suffice to convince the experienced observer as to whether such sounds are significant of organic disease or compatible with mere disorder. Functional murmurs do not strictly accord in position and conduction with those due to valve-defects. Any such murmurs present are always systolic or post-systolic, often somewhat frictional in character; never, in my experience, diastolic or presystolic, and most generally are heard with undue loudness over the neck-vessels, or sometimes are very apparent over the lung, even remote from the heart, and especially so during inspiration. There is no history of rheumatic fever or of previous heart-disease.

If the patient who suffers from any disturbance of the heart's action, whether it be mere abnormal consciousness of its action or the most severe palpitation or anginoid attacks, can be truthfully assured that there is no organic lesion—that his troubles, however painful or distressing, are not mortal—a most important step is taken in the treatment. On the other hand, we have most of us seen patients whose lives have been rendered miserable with the ever-present fear of death, owing to a hasty and ill-considered diagnosis of a weak or a dilated heart—a diagnosis that should never be made without the gravest sense of responsibility, and requiring in some cases more than one careful examination.

Having come to a diagnosis and reassured the patient with regard to prognosis, the next point is to investigate the patient's mode of life. A sample day's doings, noted down and corrected here and there as the case may demand, is an elementary measure of treatment. The removal of the morning cup of strong tea, or its replacement by a small cup of warm milk diluted with vichy or other water; the arrangement, by rising

a little earlier, for a leisurely breakfast and time for a proper relief of the bowels before entering upon the day's work; the avoidance of rush at the luncheon-hour, and the securing of a quiet hour before dinner will, with a few sensible directions with regard to the dietary, do much to render digestion more complete, and quiet the nervous system. Many of these people have really but little to do, but they are always in a hurry about it. Another considerable portion who earn their daily bread and support their families by hard and exacting toil are yet impelled by their nervous energies to occupy all their leisure evenings, off-afternoons, and Sundays with honorary secretarial duties, or teaching, or amateur philanthropy, all duties which with a heavy heart but a determined mind the physician in these particular cases has to prune down in order that they may continue to do that which is essential for themselves and their families.

But there is yet another class of men, chiefly in the forties and fifties, who in earlier years have been physically active, even athletic, but of late, with quadrupled professional business, domestic and social affairs on hand, have lost leisure for exercise, yet preserve their powers of eating and drinking as regards quantity, but of enriched quality. All such tend to venous plethora, retarded circulation in their great organs, heightened blood-pressure, fat-laden and infiltrated heart, and from them a large contingent of functional heart-disorders are furnished. These are the cases in which a yearly course of the waters of Harrogate, Homburg, Carlsbad, Marienbad, etc., are so valuable, and in which the *terrain cure* of Oertel is to be advocated; but a little wise overhauling of the dietary by the physician, the resolute acceptance of such by the patient, and the adoption of steady daily exercise dovetailed in with the work, will do much to perpetuate cures thus initiated. Their hearts are lazy and hampered, not weak; they require to have sensible guidance not to have cardiac introspection as an administered neurosis.

Having (1) given an absolute diagnosis, and (2) having investigated and corrected

the habits of life in whatever respect they may be faulty, we have (3) to ascertain and remove, or at least to treat, the exciting causes of cardiac disturbance. These are for the most part reflex, gastric, intestinal, rectal, renal. I have seen very striking instances of floating kidney attended with great functional disturbance of the heart, and sometimes also pulsation of the abdominal aorta. Exostosis, bad teeth, and other sources of distal irritability are frequent causes of disturbed cardiac innervation. Dr. Clifford Allbutt, in his Goulstonian Lectures, alludes to many cases of cardiac attacks of a functional kind, with very slow, quick, or intermittent action, and in some with distinct anginal symptoms, which he has observed to occur in connection with, often in succession to, or alternately with, some form of visceral neuralgia, especially gastralgia or some uterine disturbance, such as menorrhagia. No doubt in many of these cases the neurosis is really central. Dr. Allbutt points out that pulmonary gastric and cardiac neuroses are often concurrent in families, and I have seen a striking instance in which they have each been present at different times in the same individual. Here it is clear that we have to do with a central neurosis manifesting itself in different viscera at different times. Dr. Allbutt is, moreover, careful to point out that in his cases of cardiac disturbance following gastralgia there was no dyspepsia proper.

The causes of high tension other than those mentioned must be looked for, and if possible treated. The gouty disposition has to be reckoned with. In this department of inquiry and rectification will come the causes of those conditions of the heart-muscle which, rendering the organ especially irritable and inadequate in function, are accountable for breathlessness, palpitations, and spurious anginal seizures. Fatty infiltration of the intermuscular texture and incomplete removal of waste materials from the cardiac muscle briefly constitute the pathology of these cases, and their etiology chiefly consists in indolent, self-indulgent living, including rich and too plentiful food, often alcoholic excess and too little exercise, the other chief cause being the cessation of hem-

orrhagic or other fluxes which attend the climacteric period of life. Venous plethora is the marked feature in all these cases, and graduated exercises, restrictions in diet, and hepatic depletory medication are the principal measures of treatment. The diet should in these latter cases be carefully looked to. It should be spare, slowly eaten, taken at regular meal-times only, and may consist of a good breakfast, a moderate amount of fresh-cooked meat, without fat, for luncheon, and poultry or game for dinner, with fish and a little soup. Starchy and root vegetables and bread should be removed, or only very sparingly allowed with the lunch and dinner meals, crisp toast or biscuits being substituted for bread. The amount of fluid taken with the meals should be restricted in decided cases to a claret-glass with luncheon, and two glasses with dinner. This may consist of one or other of the light wines, or diluted spirit in measured quantity. About an hour to two hours after, or half an hour before meals a glass of plain hot water should be slowly sipped to supplement the fluids taken.

In the more pronounced cases the passive exercise and soothing monotony of a well-planned sea-voyage is sometimes very advantageous, only, however, for those who are able to eat and sleep well on board ship. The restful régime of a spa suits others, the particular spa being selected for its chalybeate or its eliminative effects as the case may require. The more formulated treatment by surface stimulation from aerated saline baths combined with rest and passive resistant exercises proves very beneficial in some cases, more particularly those in which there is a gouty element, the arterial tension ranging high and nervous introspection not being too marked a feature. A definite course of spa treatment is often useful, indeed sometimes essential, in serving the purpose of inculcating the habit of self-discipline.

Drugs are, of course, often required in the treatment of functional disturbances of the heart, purgatives or laxatives, and particularly an occasional mercurial to lower arterial tension and to remove irritating materials. Sometimes nerve-sedatives of the bromide order, often hematinics, especially

arsenic and iron, as tonics to the nervous system and blood-restorers. Strychnine is often very badly borne by patients of the neurotic class, except perhaps for short periods, and where a cardiac tonic is required caffeine is more appropriate. In cases of venous plethora a course of salines is sometimes necessary, and in gouty cases suitable remedies.

Functional disturbance, similar in kind to those we have been considering, is as frequently observed in association with diseased as in healthy hearts, and many of the troubles and some of the catastrophes of cardiac disease are attributable to functional derangement. Numberless people die of functional disturbance of a diseased heart; few, or none, die of functional disturbance of a sound heart. Hence the importance of a definite diagnosis in every case as to which category it belongs.

TREATMENT OF ANGINA PECTORIS.

The etiology and morbid mechanism of angina pectoris are difficult enough to formulate with regard to prophylactic and remedial treatment. The difficulties diminish when we recognize that there is a continuity in the phenomena presented to us for treatment from the slighter degrees of introspective recognition of the cardio-vascular mechanism, through the more distinct evidence of cardiac anxiety and distress in connection with the higher and more persistent grades of arterial tension to the paroxysmal attacks of acute breast-pang associated with a veritable asthma of the blood-vessels which may supervene in any cases of the series; and this continuity is to be observed between so-called false and true angina, although some authors will not admit the term angina except as applicable to the fatal cases of coronary origin.

In a large proportion of cases angina pectoris is an entirely functional disorder, the main feature of which is sudden increase of blood-pressure and a correspondingly sudden call upon cardiac effort; it may be on the systemic, it may be on the pulmonary, side of the circulation that the strain arises. The causes of this arterial spasm are almost all within our scope of remedial treatment, and the neurosis that favors its occurrence

is subject to considerable modification and control. In all these cases, whilst it is the heart that suffers the angina, the conditions which originate that suffering are outside the heart. There is no essential difference save in degree, and not always in degree, between cases of angina in which the heart is sound and those in which it is unsound, but there is every difference in the gravity of prognosis and the urgency for treatment. The cause of distress is contraction of the peripheral or general visceral or pulmonary vessels, giving rise to muscular strain of one or both cardiac ventricles suddenly induced and of a cramp-like character.

The cardiac pain in the vasomotor angina is difficult to explain satisfactorily; it is distinctly a result of intraventricular pressure, and from its character and radiation it must be primarily an affection of the sensory nerves of the heart caused by stretching of its tissues, so that the contraction of the tissues is attended with pain. The endocardial surface is more sensitive than the pericardial surface, but comparatively insensitive tissues when stretched become very painful. Dr. Allen Sturge observes that reflected pain is only an ordinary sensation conveyed to a nerve-center in commotion, by which it is intensified to a painful sensation. Thus may the reflected pains be accounted for as emanating from the centers disturbed through the cardiac nerves. On the other hand, we have only to conceive a slight degree of hyperesthesia of the organic nerve-centers to account for that undue perception of the cardio-vascular mechanism which is the first grade of neurotic disturbance, and which can readily become a painful perception of increased pressure within the heart.

The pain, which is to a certain extent the measure of the strain upon the heart, is to be attacked by remedies which relax arterial spasm. Amyl nitrite, nitro-glycerine, and the nitrites generally, but especially nitro-glycerine (1 min. of the 1-per-cent. solution), may be given at intervals of five minutes for two, three, five or more doses, and at the same time that the antispasmodic is given an appropriate cardiac stimulant is required. In the more purely neurotic cases it is most

desirable to avoid alcohol. There is no better stimulant than slowly sipped hot water. Dr. Brunton has pointed out that sipping is a physiological stimulant to the heart, and hot drinks tend to relax arterial spasm. A prescription for a carminative draught, including ammonia, chloric ether, and valerian or cardamoms, is valuable to be taken in several sips. Warmth to the surface, and especially to the extremities, are the further requisites.

The second stage of these cardio-vascular attacks is one of reaction and excitement, to be followed by fatigue. Often by the time the medical observer arrives the cardiac pressure has already been relieved through the depressor nerve of the heart excited by intraventricular pressure bringing about relaxation of arterial spasm, the first violent throbbing or the threatened standstill of the heart has already yielded to quick, perhaps somewhat irregular beats, the tension of the pulse is no longer apparent, and this fact has no doubt led many observers to question the alleged mechanism of this form of angina. With a few hours' rest in bed the patient may again be fit for the duties of life, although usually a sense of lassitude and fatigue remains for a few days. It is now that the cause of the attacks must be sought out, the conditions of the heart carefully ascertained, and the daily life, diet, and surroundings and functions of the patient must be investigated and corrected where in error.

If there be no heart-disease present, the patient must be thoroughly reassured on that point; but if heart-lesion is present, much more attention must be given to the after-treatment, and the prognosis depends upon the nature of the lesion present. I would briefly say that the gravest cases are those in which there is enlargement of the heart without, or not accounted for by, valvular defect. I would mention the fibrofatty heart, the syphilitic heart, the renal heart in this category. Aortic stenosis and aortic regurgitation come next, the regurgitant defect being by far the most common. Mitral stenosis is not infrequently attended with anginal seizures, sometimes of a fatal kind, and the attacks would probably be more frequent were it not for the readiness

with which pulmonary hemorrhages occur. Mitral regurgitation as the primary disease is rarely accompanied with angina, and when it supervenes on cases due to degenerative hypertrophy and dilatation it tends to preserve the patient from future attacks. On all these cardiac conditions anginal attacks may supervene, having precisely the same mechanism as the attack unattended with cardiac disease. It is most important to bear this in mind, for the treatment is precisely on the same lines, only it must be more urgently pursued.

The initial treatment may be started with nitrite-of-amyl inhalation, and the patient should always have the drug at hand. But the attack is commonly attended with such acute heart-failure that the clinical features of high-pressure pulse and laboring heart may be immediately lost. Undoubtedly, the subcutaneous injection of pure ether, to which a minim of nitro-glycerine solution may be added, if not already otherwise taken is the best treatment in severe cases if caught at the right moment. The sense of prostration is greater and more defined in these cases. Alcoholic stimulants, so much to be avoided in pure vasomotor cases, are in these imperative. A full dose of brandy should be given in some hot drink. In those cases, and they are many, in which flatulent distension forms a marked feature of the attack, if it be not concerned in producing it, a draught of ether, ammonia, soda, cardamoms and spirits of chloroform is of much service at the earliest stage.

The heart is left in an exhausted or fatigued condition after the attack, and there is a decided tendency to a series of several attacks. For this a mixture of strychnine or caffeine may be prescribed with digitalis, so that 15 or 20 minims of liquor strychnine and 20, or 30, or 40 of tincture of digitalis are given in twenty-four hours, and the strychnine may be given subcutaneously in, of course, equivalent doses, or the caffeine in the form of salicylate. It is probable that digitalis and strychnine influence the heart-muscles before that of the vessels, but if the pulse become tightened, as it may be in exceptional cases, the digitalis must be lessened or its effect on the vessels mod-

erated by the addition of 1-2-minim or 1-minim doses of nitro-glycerine to the prescription. There is another remedy which is a powerful restorative to the fatigued heart, and that is oxygen-inhalation, which may be given for five or ten minutes every hour or two or three hours as may be required.

These cases often come to us with a history of a recent attack, and we have to consider what form of angina it has been, how to avert fresh seizures and how to repair, if it may be, the failing heart which renders each attack dangerous.

The presence or absence of heart-disease must be rigorously ascertained:

1. The soundness or otherwise of valve-function.
2. The presence or absence of enlargement, dilatation, or hypertrophy of the organ.

It is important not to form too hasty a judgment, and it is often impossible to come to a final diagnosis at or immediately after a seizure. In tumultuous action, whether from excitement or violent work, the locomotion of the heart is greatly increased, and an inexperienced observer is apt to find great enlargement, displaced apex-beat, etc., when none exists. On the other hand one hears it sometimes maintained at inquests and the like that considerable organic disease of the heart may exist without any recognizable signs. I would venture to say that a careful investigation of the sounds and dimensions of the heart will always establish in such cases a displaced apex-beat, an increase in the dimensions, or a recognizable alteration in the sounds of the heart. The converse is, however, frequently true, namely, that much alteration in the heart is conceived to be present when none exists. It requires great precision and diagnostic courage to prove a negative, and in the presence of functional disturbance and discomfort and anemic bruits, mistakes in diagnosis are very frequent and easily made.

With mitral regurgitation of rheumatic origin, high-tension pulses do not often supervene, but mitral insufficiency is frequently a sequel to the dilatation of the heart consequent upon chronic high tension

and secondary cardio-vascular changes, and under these circumstances it is undoubtedly a safeguard against over-distension of the ventricle. I have seen cases in which the establishment of mutual incompetence has produced a cessation* of anginal attacks which had previously occurred from time to time. In senile hearts mitral regurgitation is common, and is not to be looked upon seriously, but rather as a favorable element in prognosis, a condition normal to the senile heart.

TACHYCARDIA, BRADYCARDIA, EXOPHTHALMIC GOITER, ETC.

Neither reading nor a considerable experience of cases has brought me to an exact appreciation of the mechanism of that persistent hurry of the heart's action which is known under the term—a term which responds well to our ignorance—tachycardia. The chief features of the cases may be briefly enumerated:

1. A persistent hurry of pulse lasting* for periods varying from hours to many weeks, during which the pulse is rapid, from 120 to 200 or more, regular, small, of sustained, I should say, rather than of high tension.
2. Intervals of severe palpitation, attended with precordial pain, notable distress, and more tumultuous irregular action of the heart.
3. Although murmurs may be heard and the cardiac dullness may be broadened during attack, in the intervals the dimensions and sounds of the heart may in the earlier stages be perfectly normal.
4. In the earlier stages and in the most typical cases the heart-hurry has been observed to begin and to finish quite abruptly. This was so in Dr. Cotton's case and in Sir T. Watson's, in the latter the pulse suddenly changing from 216 to 72, with subsidence of all symptoms whilst that physician was still in the room.

5. So far as any exciting cause can be stated, it has been for the most part mental shock, mental or physical overstrain.

The above characteristics are sufficient to show, were demonstration needed, that the condition is a pure neurosis, and that the neurosis must be either of the vagus or sympathetic cardiac center seems fairly cer-

tain. It is inconceivable that a paralytic affection of the pneumogastric center should be attended with a regularity of rhythm so generally notable, and should be capable of such abrupt termination as is observed in some cases. The view of sympathetic excitement is perhaps better supported by other phenomena of sympathetic irritation, such as sweatings and flushings of the face. No autointoxicant can be recognized in most cases.

It is worthy of remark, on the one hand, that many people, especially women, suffer from persistent hurry of heart, coming quite within the range of the lower degree of tachycardia, on the other, that there is nothing to distinguish simple tachycardia from that which is the constant symptom of exophthalmic goiter, the rhythm and quality of pulse being precisely the same. It is also to be remarked that there are some cases which might be regarded as of a transitional kind, in which, with no enlargement of the thyroid, and with no more than a slight beadiness of the eyes, there are present the characteristic hurry of circulation, cardiac murmurs, etc., and in other cases again these circulatory phenomena precede the thyroid enlargement.

For the present the exact meaning of tachycardia must remain unsolved, and we may associate it with some other clinical facts, such as persistent elevation of temperature and unexplained continued elevation of arterial tension, the morbid physiology of which is not yet apparent.

The theory of exophthalmic goiter maintained by Moebius, Johnston, Greenfield, Murray, and others, that it is due to an excessive formation and absorption of thyroid secretion and its action on the nerve-centers in the medulla, is useful if only as a working hypothesis. This hypothesis has been suggestive of certain measures of treatment that have been devised for exophthalmic goiter and more successfully for its opposite myxedema. It would appear to be at least approximately true, although probably some central medullary change precedes the thyroid phenomena, and is responsible for them. Some regard the thyroid secretion as modified and having toxic

effects. It is based upon certain very definite observations, namely:

1. That no definite lesion of nerve-centers has been found.

2. That the thyroid is the organ more obviously affected than any other.

3. That its structure is altered in the direction of hypertrophy and over-activity of function, and possibly there may be some alteration in the quality of the secretion (Moebius, Murray, Jeffrey).

4. The symptoms tachycardia, nervous irritability, insomnia, and vibratile contraction of voluntary muscles, are the reverse of the bradycardia, torpidity, and impaired reflexes characteristic of myxedema, consequent upon atrophy or excision of the thyroid.

5. Whilst moderate doses of thyroid extract will cure or keep in abeyance the phenomena of myxedema, an overdose of the extract will produce symptoms resembling those of exophthalmic goiter.

There has as yet been found no means of treating simple tachycardia successfully. The digitalis class of drugs are useless in this, as in almost all cardiac neuroses, except, and the exception is important, in the treatment of the heart-fatigue which sooner or later ensues as a consequence of the functional strain upon the organ. Tachycardia in its various grades is, however, often but a symptom, a prominent expression, of a neuropathic state which requires to be approached for treatment from many sides.

In exophthalmic goiter again, having made the diagnosis, the physician has to deliver himself of the somewhat magisterial sentence, "imprisonment for six months and under surveillance for from two to five years." The rest for the first six months should be absolute on bed sofa, or on a couch in the open air, with the utmost avoidance of all excitement and mental fatigue. The patient can then be promoted to bath-chair exercise, quiet walking and driving, or more scientifically graduated exercises, and in the course of time recovers. The general well-being of the patient can be maintained, and the more distressing local and general symptoms relieved or removed by cold ap-

plications to the throat, sedatives of the bromide and valerian order, arsenical and sometimes iron tonics; digitalis and the like drugs may be given on the appearance of heart-fatigue, indicated by the signs of dilatation and a pulse irregular in time and force. In the treatment of the tachycardia, apart from heart-strain, digitalis is of little value. The use of thymus extract is, in my experience, of some value in diminishing the rapidity of the pulse; the galvanic current has been found useful in some cases. Theoretically, the Nauheim brine-baths should be useful, but practically I have seen no good from them, at least in the more acute stages. The treatment of constipation and proper dietetic support are all matters of great importance under the enforced quietude of the patient.

Operative treatment by partial extirpation of the thyroid gland has been rather extensively tried, as has also section or partial resection of the sympathetic nerve in the neck. Mr. Treves has recently given some instructive illustrations of the fact that any surgical operation will in a certain proportion of instances, in some manner unknown, modify, perhaps even cure, a pure neurosis. The partial removal of the thyroid gland in the acute stage of the disease is attended with very considerable danger and only very inadequate success.

The best cases were those of Paul of Liverpool, but of his six cases recorded in the *Brit. Med. Jour.* for 1897, all except one were of more than two years' standing. Abadie and Faure (*Prog. méd.*, 1897) have had successes from section or ablation of the cervical sympathetic, but, of Faure's three cases, one was of twelve years' standing, and in the others the duration is not stated. Doubtless the section of the sympathetic will slow the heart, but it has not yet been satisfactorily shown to influence the disease, and one would regard with some misgivings the future of a heart deprived of due sympathetic innervation, whilst it is clinically remarkable how well the heart comes out of the long struggle, but little damaged when the patient has been carefully steered through by judicious handling. It sometimes happens that a disfiguring enlargement or a more serious distortion of

the thyroid remains after the tachycardial symptoms have subsided, and in one instance I have seen this condition dealt with very successfully by removal.

BRADYCARDIA

One form of bradycardia is that which sometimes follows upon the rapid heart of exophthalmic goiter. It is very commonly associated with well-marked myxedema, and may continue, notwithstanding that the disease has been cured or held in check by thyroid treatment. I have seen it in epileptics, in which case the rhythm is not only slow, but generally irregular. As a temporary condition bradycardia is not infrequently met with as a sequel to influenza, and also in association with the stage of depressed temperature that frequently follows upon other fevers. In the influenzal cases that I have seen it has been associated with a very high density of urine with great surcharge of urea, as though there had been some previous accumulation, the urine becoming solid with crystals on the addition of cold nitric acid. Spurious anginal seizures are sometimes observed under these circumstances, but I have never known them to prove fatal, although of course in the presence of any previous heart-disease they might readily prove so.

Chronic high arterial tension is generally associated with a slow, sometimes a very slow, pulse, whereas in acutely raised tension the heart's action is, as I have pointed out, generally quickened.

In chronic bradycardia, a condition that tends to remain permanent, and does not necessarily shorten life, an occasional twenty-four hours' rest in bed should be enjoined, and for mental work the recumbent posture should be preferred. In cases of a more temporary kind the combination of strychnine with an alkali or iodide of potassium (the two drugs being kept in separate bottles and only mixed at the time of taking) is a very useful one. Caffeine is also very useful, especially where the urine is scanty. A five minutes' whiff of oxygen three or four times in the twenty-four hours is a valuable cardiac stimulant. In cases of myxedema thyroid extract will be given, but it is not wise to push it to the production of any excitement of circulation.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Antidiphtheritic Serum and Diphtheria Albuminuria

C. H. Spronck, in *La Sem. méd.* (Vol. XVII, p. 434), concludes from his experimental studies on the action of antidiphtheritic serum and upon a pre-existing diphtheria albuminuria that:

1. A subcutaneous injection of 10 c.c. of antidiphtheritic serum, or the serum of a non-immunized horse produces in a healthy rabbit of from 2 to 3 kilos, a very slight albuminuria which persists for twenty-four hours only, and results simply in the passage of a small quantity of serum-albumin through the renal filters.

2. The amount of this albumin is greater and it persists longer following a diphtheritic albuminuria in the rabbit; also if the rabbit has just recovered from a simple albuminuria.

3. The antidiphtheritic serum exercises no unfavorable action on such albuminuria, even when injected in large doses.

4. On the contrary, this serum exercises a favorable action if it is injected from the start of a diphtheritic albuminuria, or during thirty-six to forty-eight hours after the onset of such a complication.

5. Finally, the anti-diphtheritic serum is incapable of promptly arresting a complicating albuminuria, yet it can materially modify its course for the better and diminish the intensity and duration of the process.

J.

Pathogenesis of Urinary Calculi

According to M. Wilhelm Ebstein (*Rev. de Anat. pat. y clin.*, Dec. 15, 1897) the pathogenesis, or development of all ordinary calculi presupposes the existence of an organic substance (albuminoid) which is indispensable for the formation of a nucleus, unless the latter is furnished by a foreign body. This albuminoid substance, produced in different ways in the organism of persons suffering with lithiasis, furnishes, together with other substances (uric acid and its compounds, oxalates, phosphates, etc.), the constant base of the concretions, from urinary gravel, up to the more voluminous calculi calling for operative interference.

The growth of urinary calculi is always due to the interaction of two unlike sub-

stances, one of which forms the nucleus. Sometimes concentric layers form around this nucleus, sometimes irregularly arranged masses of crystals, and sometimes a combination of both, but always with the albuminoid substance mentioned as a core, in the absence of a foreign body.

If the latter are absent, the calculus ceases to develop. The truthfulness of this doctrine has been proven, not alone by the chemical analysis of urinary calculi from human beings and animals, by a study of their structure, etc., but also by the possibility of reproducing experimentally in animals treated with oxamide, calculi which, by their formation, development, and construction are identical with ordinary calculi.

G.

Does the Negro Have Locomotor Ataxia?

Dr. C. S. Briggs, of Nashville, Tenn., states that (*Atlanta Med. and Surg. Jour.*, Nov., 1897) although syphilis is exceedingly common among the negroes of that State, he has yet to see, after more than a decade's practice, a single case of locomotor ataxia.

L.

The Relation of Aneurism of the Aorta to Tuberculosis

Several years ago Dr. Fraenkel expressed his opinion to the effect that in cases where pulmonary tuberculosis coexists with aortic aneurism, the former is a direct result of the latter; the aneurism compresses a bronchus, induces congestion and stasis of the secretion, thus making a favorable soil for the tubercle bacilli. At a recent meeting of the Society of Internal Medicine in Berlin (Dec. 6; rep. *La Méd. mod.*, p. 798, 1897) the doctor demonstrated preparations, apparently confirming that opinion. A strong man, 27 years of age, entered the hospital suffering with frequently recurring hemoptyses, of which he finally died. The autopsy showed an aneurism of the pulmonary artery of the size of a pigeon's egg, compressing the left bronchus. The left lung showed signs of commencing tuberculosis.

R.

Varieties of Dental Calculi

H. H. Burchard (*Dental Cosmos*, Vol. XL, No. 1, 1898) distinguishes the following varieties of dental calculi:

1. Yellowish-white deposits found upon the buccal surfaces of upper molars. They are soft and friable. They dissolve readily in dilute hydrochloric acid with the evolution of carbon dioxide, and leave but little detritus and apparently no distinct evidences of an organic stroma, i. e., they are largely

composed of calcium carbonate, with a minimum admixture of organic material.

2. This class includes the calculi found upon the lower anterior teeth, opposite the ducts of the submaxillary and sublingual glands. They are made up, in large part, of calcium phosphate, combined with mucin.

3. This variety comprises the small, dark, hard, scaly deposits found beneath the gum-margin, which excite the most common and most curable variety of pyorrhea alveolaris. This calculus is at times associated with the first and second varieties.

4. The fourth variety consists of those small nodular calculi found deep in the pockets of pyorrhea cases and upon the apices of the roots in cases of long-continued apical abscess.

5. This includes those deposits which are found upon the sides of roots in cases of gouty necrosis of the pericementum, and which exhibit in some degree a reaction to the murexid test. These deposits in their typical form are irregular and more friable than either the sublingual deposits or other root-deposits named. The bulk of the calculus is made up of calcium phosphate, a common associate of deposits of urates in other parts of the body. S.

Methylene-blue as a Means of Diagnosis of Renal Permeability

Drs. Archard and Castaigne (*La France méd.*, No. 26, 1897) suggest the use of methylene-blue for the purpose of ascertaining the functional condition of the renal substance. With healthy kidneys methylene-blue proved to be eliminated rapidly, communicating to the urine a distinctive color; in diseased conditions, however, elimination was retarded. Considerable edema did not hinder the absorption of the methylene-blue, and its consequent appearance in the urine. The authors were able to trace, by defective elimination, the progress of lesions, which were at the same time indicated by the increase in clinical symptoms. The methylene-blue is administered hypodermically, deeply into the tissues. S.

Red Blood-corpuscles in the Anterior Capsule of the Crystalline Lens

Dr. Liets Vollaro (*Clin. Oculis. di Napoli*, Vol. V, No. 2) studied the histological changes in an eye affected with glaucoma hemorrhagicum, and found some roundish corpuscles in the depth of the anterior capsule.

The corpuscles were numerous on the anterior surface of the capsule, and they appeared to be red blood-corpuscles because of their mode of staining and the way they

refracted light. In some points the capsule showed a sinuosity in which corpuscles pushed their way ahead, while others hid in the surrounding parts. The microscopical sections also showed a thin membrane, very refractive, covering the whole anterior surface of the capsule, detached in some points, and perforated in some others, and thus allowing the corpuscles to invade the capsule. The epithelium was in all sections unchanged. M.

Hydronephrosis of Calculous Origin in Infancy

Dr. Leon Barnard reports his observations, which he made on four nursing children who died from gastro-enteritis. One case presented a typical hydronephrosis, the others presented dilations of varying degree of the pelvis of the kidney or of the ureter. In none was there any inflammatory process, but the urine of all four cases contained a quantity of fine gravel, to which, in absence of any other recognizable cause, the author ascribes the origin of the hydronephrosis (*La Méd. mod.*, Vol. VIII, p. 716). Accumulating at the normally narrow points, the gravel diminishes the rapidity of the urinary flow; this causes an increased tension, which in its turn causes the dilatation. Clinically these cases of hydronephrosis are latent, unless the tumor be too large. But it is reasonable to assume that, should such children recover from their gastro-enteritis, the hydronephrosis would continue to develop further.

The author thinks that many cases of hydronephrosis in later years, the origin of which is obscure, may be traced to lithiasis in early childhood. R.

Changes in the Nervous System due to Acute Phosphorus-poisoning

So much pathological work has recently been done along the line of the minute cellular changes in the nervous fissures that the present communication of Enrico Rossi, *Riv. di Patol. nerv. e ment.*, Vol. II, p. 535, is of special interest.

His experiments were conducted upon dogs. These were poisoned by gradually increasing doses of phosphorus, given hypodermically in oil. Immediately after death the nervous tissues were fixed in corrosive-sublimated solutions and stained by Nissl's methods, and its modifications, and with Biondi Heidenhain solutions.

The changes observed in the Purkinje cells of the cerebellum were diffuse coloration of the cytoplasm. The cells of the anterior horns showed a general chromatolysis in most of the regions of the cord,

and the cells of the Rolandic area were invaded in much the same way. In summing up the author states that in the three dogs poisoned by phosphorus he found varied and diffuse changes of the cellular elements of the nervous system and of their elementary constituents, changes which in the spinal cord increased gradually from the anterior to the posterior roots.

The anatomo-pathological process consisted in a primary degeneration of the cortico-medullary cells, of those of the cerebellum and of the spinal ganglia, with a varying amount of participation of the chromophilic substance of the dendrites. No changes were observed in the neuroglia nor in the blood-vessels. J.

Hypertrophic Cirrhosis of the Liver in a Boy Nine Years Old

The case in question was observed by Drs. Dellemagne and Tordens (*Jour. de Clin. et de Thérap. inf.*, Vol. V, No. 17, 1897). The boy was well till 7 years old, when he began complaining of gastric pain, accompanied by vomiting, which increased gradually in severity. Fever, jaundice, enlargement of the abdomen, spleen, and liver, and severe attacks of epistaxis soon followed. The child died of exhaustion, and on post-mortem the liver was found to weigh 650 gme., had a yellowish-green color and an irregular surface; a large number of fibrous bands was found transversing the liver-tissue, the bile-ducts were dilated, the spleen was hard in consistency.

The diagnosis hypertrophic cirrhosis of the liver was made six months after the first appearance of the child's illness. Later on the liver gradually diminished in size, the case thus presented a mixed form of cirrhosis, both the atrophic and hypertrophic varieties. S.

Gargle for Follicular Tonsillitis

Beechwood Creosote..... 8 drops.
Tinct. Myrrh..... 2 oz.
Glycerin..... 2 oz.
Water..... 4 oz.

—Levy, *Jour. de Med.*, Paris. L.

Rheumatoid Arthritis

Prof. James Stewart, of McGill University, considers the relation of rheumatoid arthritis to diseases of the nervous system, tuberculosis, and rheumatism (*Montreal Med. Jour.*, Vol. XXVI, No. 6), and reaches the following conclusions:

1. Rheumatoid arthritis is a disease prone to occur in people of a rheumatic tendency who have suffered from subacute rheumatic attacks. The presence of infectious disease of any kind tends to increase this

tendency, as does also the operation of all causes having a depressing influence on the resisting power of the nervous system—worry, exposure or cold, and traumatism.

2. There is no sharp dividing line between certain cases of chronic rheumatism and the earlier stages of rheumatoid arthritis.

3. There is not sufficient evidence to support the views commonly held as to the nervous origin of rheumatoid arthritis.

4. The polyarticular forms of rheumatoid arthritis have clinically the features of an infectious disease.

5. The result of recent investigations points very strongly to its infectious nature.

As regards treatment, the most valuable and most successful method is the employment of superheated dry air, according to Tallerman. The author has employed this method in twenty cases, with very gratifying results. R.

For the Pains of Tabes

For the lightning pains of locomotor ataxia, Dr. Déjerine (*Méd. mod.*, p. 797, 1897) administers the following:

Antipyrin..... 10 grn.
Phenacetin..... 3 grn.

Make one cachet.

S. Take one cachet every fifteen minutes, until three have been taken.

R.

Traumatic Pulmonary Tuberculosis

No well-authenticated case exists in literature of pulmonary consumption being the direct and immediate result of a trauma. Such a case is now for the first time reported by Dr. Schrader (*Berl. klin. Woch.*, Vol. XXXIV, No. 46, p. 1001). The patient, a laborer 29 years old, had always been perfectly healthy; he served in the army three years; his father, mother, brothers, and sisters are all healthy. One day while working near a shaft he slipped and fell on his back. The fall was so severe that he remained unconscious for fifteen minutes. Next day he complained of fever, headache, and general malaise, and on the day following he was removed to the hospital. His temperature was then 101.8° F., pulse rapid, but full and strong, respiration labored, face slightly cyanotic. Over the right scapula there was an abrasion of the skin four inches long and half an inch broad. Over that area no vesicular murmur could be heard, and the vocal fremitus was increased. On coughing there was pain in the chest in the area corresponding to the external abrasion. Next day the temperature rose to 103° F., the dulness ex-

tended to the middle and lower lobes, where bronchial breathing and large râles were heard. The case was then diagnosed as pneumonia. Six weeks after admission to the hospital tubercle bacilli were found in the abundant sputum. The temperature of the patient was very high evenings, falling to normal in the morning. He kept on losing flesh gradually, until he weighed only 120 pounds. Ten weeks after admission to the hospital the patient began to improve, all the symptoms began to disappear, and in about two months he was perfectly well.

That there was a direct connection between the trauma and the disease nobody will, of course, doubt, as the initial affection in the lung corresponded exactly with the external abrasion; but whether the disease was from the very first acute pneumonic tuberculosis or whether it was simply a confusion pneumonia which paved the way and fertilized the soil for the tubercle bacilli—the man was in the same room with a number of consumptives—must, in our opinion, remain an open question. R.

Throat-deafness

*F. C. Ewing (*Med. Rev.*, Dec. 18, 1898) directs attention to the more practical consideration of the condition termed "throat-deafness," though a more descriptive term by which to designate this form of deafness would be tubal deafness, since it is not principally dependent upon any throat-affection, the Eustachian tube opening into the nasopharynx, and any mechanical obstruction must necessarily be situated in that chamber. As closure of the tube causes rarefaction of the air within the tympanum, the balance of pressure upon the membrane is disturbed, causing the latter to be pressed inward, the tension being thus increased. The chain of ossicles being driven in, the stapes is forced into the fenestrum ovale and labyrinth. This is succeeded by passive congestion, producing trophic changes and connective-tissue growth, with subsequent atrophy. Finally, adhesions are set up, the stapes becomes firmly anchored in the foramen, and the next progressive step is labyrinthine disease. Inflammatory thickening of the lining membrane of the tube may succeed naso-pharyngeal catarrh, the latter being often simply the manifestation of a neurotic condition. Atrophic rhinitis may cause middle-ear deafness by extension through the tube. Adenoids are one of the most prolific causes of deafness from Eustachian obstruction. The tube may be mechanically obstructed by exostosis in proximity, or from venous enlargement of the internal pterygoid plexus, as also from hy-

per trophy of the posterior end of the tubal. Eustachian obstruction can be demonstrated with bag or catheter. Visual examination of the membrane will likely show it opaque, thickened, and reverted, with the light-cone obscured. Woakes first impressed the advisability of examining into the innervation of the soft palate, and Weber-Liel believes the more annoying symptoms are due to lack of balance of the tensor tympani muscle throwing extra strain on the membrane. Should there be inflammation of the tympanum proportionate hyperemia of the membrane will be manifest. Should the tube be obstructed and the tympanic chamber contain secretion, it may be demonstrated by râles heard in the auscultatory tubes. The tuning-fork test is of value here, for if heard better on the mastoid, bridge of the nose, or between the teeth, it can be assumed that the middle ear is affected; while if the fork be heard better when held near the auricle, it may be concluded that the internal mechanism is at fault. Usually, the prognosis is unfavorable, particularly if the internal ear is affected. Age and general health must be carefully considered in estimating the measure of relief to be obtained. If directly due to growths that can be removed, such as adenoids mainly, speedy amelioration may be expected. As to general health, the nervous as well as the physical must both be relieved, Woakes and Weber-Liel even advocating intertubal galvanism for nervous cases. Local application to the nasopharynx, scarifications of edematous projections, stimulating vapors, iodide of potash in long-continued doses, all are of good avail. L.

On the Antibacterial Properties of the Leucocytes

In the *Arch. f. Hyg.*, XXXI, Heft. 1, A. Shatlenfroth reports a series of observations along lines laid down by Buchner and others to determine the kind of material in the leucocytes that is antibacterial in its action. The main conclusions drawn from his paper are as follows:

1. The leucocytes of rabbits and guinea-pigs contain bactericidal materials which probably exist in a free state.

2. The anti-bacterial power of these substances is not destroyed by drying, nor by one-half hour's heat at 60° C.; the same length of time at from 80° to 85° destroys, in part, their action.

3. By a complicated process of freezing and mixing with inactive exudates; by one to two days' maceration of a low temperature, or by warming the loosened leucocytes in physiological salt solution at 60°; or by

macerating for one or two weeks in physiological salt solution at 37° C. a cell-free extract may be obtained which is bactericidal in its action; which action varies widely with different bacteria.

4. The bactericidal action of blood and leucocyte extract is not analogous, although it may not be improbable that the blood-alexines and the bactericidal material of the leucocytes are identical.

5. The leucocytes contain, in addition to their bactericidal materials, antagonistic bodies, still imperfectly understood. J.

Tuberculosis after Circumcision

At a meeting of the Section on Pediatrics, New York Academy of Medicine, Oct. 14, 1897, Dr. Martin W. Ware exhibited under the microscope a tubercular gland from an infant who had been infected with tuberculosis during a ritual circumcision. The infant, born of healthy parents, had been circumcised when one week old. One week later the mother noticed that the wound was still open, that it was considerably inflamed, and that the glands in the groin were enlarged. When seen at the dispensary three weeks later, the case was at first looked upon as one of syphilitic infection, there being an ulcer of well-defined area on the prepuce. The ulcer was curetted, and the patient put on anti-syphilitic treatment, but the local condition continued to grow worse. A diagnosis of tuberculosis was then made. The author stated that he had collected twenty-one cases from the literature, and among these were ten from one operator, who subsequently died of pulmonary tuberculosis. Three of the ten children died of tubercular meningitis, the diagnosis being corroborated by autopsy. Dr. Koplik, in the course of the discussion, stated that he had seen twelve cases of inoculation during circumcision, most of them, however, being syphilitic. L.

Retinal Changes in Progressive Pernicious Anemia

Prof. Sgrosso (*Gaz. degli Ospedali*, Sept. 12, 1897) studied a case of progressive pernicious anemia as to the changes of the retina during life and after death.

Examination showed $V = \frac{1}{2}$, large pupils, normal reaction.

The retina was swollen and had red or brownish hemorrhagic spots, some with a small pearly-white central stain. Both papillæ were edematous and milky white, with vessels of white appearance in some places.

The microscopic examination confirmed the edema of the papillæ, one of which

showed enlarged fibers, with small hemorrhages, while in the other the new formation of vessels and infiltration of leucocytes were more marked. Between the layer of rods and cones there were hemorrhages, in only one instance from a retinal vessel, a relatively large one, the walls of which were broken down. Near the old hemorrhages the microscopical preparations showed large and small cells of different form, with nuclei and nucleoli, which were in direct connection with the fibers of the optic nerve. The behavior of these bodies with the staining agents for nervous elements showed that they were not retinal fibers in ganglionic degeneration, as was formerly thought by some authors, but red blood-corpuscles, with the nucleus and in a stage of active proliferation. M.

Calculus with Snake's Tail as a Nucleus

Dr. C. G. Kenyon exhibited before the San Francisco County Medical Society (*Occident Med. Times*, Vol. XI, No. XII) a specimen of calculus which had as its nucleus a snake's tail. The patient, a resident of one of the mountain counties, had been advised, for a stiffened right arm, to pass a snake's tail into the urethra. He did so and lost the tail. Subsequently he was operated upon by Dr. Kenyon and the specimen shown was recovered. The calculus shows the snake's vertebræ very plainly. U.

Diet in the Febrile Diseases of Children

Dr. F. M. Crandall, *Arch. of Ped.* (Vol. XV, No. 1, 1898), believes that the proper regulation of the diet is as important in the febrile diseases of children as the medicinal treatment. As it is more difficult to feed young children in health than to feed adults, so in disease the question of diet is not only a more difficult one, but is also of greater importance. The infant often has a very slight hold upon life, and even when the disease does not seem serious, it sometimes requires but a trifle to loosen it. When the child's life hangs in the balance, failure of the stomach to do its work may prove fatal. In any case it adds to the seriousness of the illness and delays recovery.

In the feeding of sick children three errors, the author says, are common—too frequent, too much, and too rich feeding. The digestive powers are diminished by fever even more in children than in adults. Less food, therefore, should be given in each twenty-four hours than in health, and it should be more diluted. It is a serious error to give milk to a sick child every few minutes. The child frequently takes it eagerly, not because it is hungry, but to

allay thirst. It should not be forgotten that milk, while liquid outside the body, becomes a solid in the stomach and it is a tax upon the digestive power. When milk is given at such frequent intervals it often happens when the critical period arrives that the overburdened stomach refuses to do its work. Complete loss of appetite, and perhaps vomiting, indigestion, and gastro-enteritis are added as a complication to the original disease. Simple loss of appetite, by depriving the child of the nourishment it so urgently needs, may in serious cases prove a fatal complication.

A careful record should be kept of the exact amount of food taken and retained during each twenty-four hours. The impressions of a nurse or mother are frequently so unreliable that the medical attendant can in no other way form a correct opinion as to the amount of nourishment his patient is getting. The importance of thus keeping a record of the quantity of food cannot be too strongly insisted upon.

The chief reliance must be placed upon milk, diluted according to the age of the child and peptonized if necessary. Next to milk in importance, are beef-broth, mutton-broth, beef-juice, wine-whey, and oatmeal or barley-gruel. The frequency of their administration should rarely be less than two hours, unless especially indicated at shorter intervals. S.

Simple Melancholia and Related Disorders

W. P. Manton (*Phys. and Surg.*, Vol. XIX, No. 12, p. 529) classifies simple melancholia, with reference to its etiology, into two divisions: First, that which may be directly traced to general somatic nutritive disturbance or disease, to which is generally added great mental, nervous, or physical strain, shock, or toxemia; and second, that in which the psychic symptoms are apparently due to peripheral irritation alone. In both classes there may or may not be an hereditary taint or defective mental organization. Cases illustrating both types are detailed. The following points are offered in summing up:

1. Simple melancholia is a disorder incident to the normal brain, that is, there are no organic changes in the cerebral tissues. It is usually the result of a lowered vitality, often with the addition of some mental or nervous strain or toxemia, which the economy is in no condition to withstand. In certain instances peripheral irritation from diseased pelvic organs may aggravate the mental disorder and protract the cure.

2. In some cases where somatic condi-

tions are entirely normal, the local trouble may of itself be sufficient to precipitate the mental manifestations.

3. The prognosis in simple melancholia should never be made until a careful and thorough exploration of the pelvis has been undertaken. It is always possible that local conditions may have a decided bearing on the future of the case.

4. In the treatment of simple melancholia arising from whatever causes, nutritive disturbances should receive the principal attention; no means should be neglected to place the local organs, if diseased, in a normal and healthy condition. L.

Mania in Convalescence from Measles

A. K. Bond (*Maryland Med. Jour.*, Jan. 29, 1898) reports an interesting case of mania due to intestinal septic absorption, occurring on the eighth day of an attack of measles, the patient being a robust man, aged 25 years. Violent delirium was associated with delusions of persecution; he mistook attendant's identity and required three men to keep him in bed. Temperature was 100° and pulse 120. Morphine, chloral, and bromides had no appreciable effect upon the patient's delirium, the author failing to recognize the cause until made evident by a free movement of the bowel on the third day thereafter, the delirium then giving way and convalescence continuing uninterruptedly. The ill development of the rash in the early stages pointed to intestinal disorder, but what caused the acute development of putrefaction and sepsis on the eighth day the author could not determine. Recent laboratory work has shown the exact nature of these poisons which are taken up from the large bowel, and the treatment therefore is rather simple, even in the most alarming cases, if once the cause and location of the underlying sepsis be determined. In acute storms of the nervous system, whether neuralgic or mental, the condition of the large bowel is worthy of careful study. L.

The Condition of the Salivary Digestion in Anemia

Hamill (*Phila. Med. Jour.*, Jan. 22, 1898) states that there has been comparatively little work done as regards the ferment-power of the saliva in pathologic conditions. The researches of Uffelmann showed that in cases with moderate fever the activity of the salivary ferment remained unchanged, while in cases accompanied by high fever, especially with loss of strength, its diastatic power was almost entirely lost. In ill-nourished, sickly persons, Butjagen

found the salivary ferment reduced in activity. In an extensive series of studies upon the subject, Jawein arrived at the following conclusions:

1. The quantity of saliva in mild febrile diseases is increased and its ferment-action unchanged.

2. In severe febrile diseases the quantity of saliva is decidedly lower and its amylolytic action increased, the ferment evidently being secreted in a saturated condition, an important lowering of the total ferment resulting.

3. After the crisis the quantity, as well as the ferment-power of the saliva is increased.

4. In acute, long-lasting febrile diseases, the quantity of the saliva is not infrequently normal, but its amylolytic action is sub-normal.

5. In pulmonary tuberculosis, even in severe cases, the quantity of the saliva is not lowered, and its ferment-action is normal. Not until a few days before death is the quantity lowered, but even then the ferment-action remains unchanged.

6. In chronic nephritis the salivary quantity is diminished and its amylolytic action not seldom abnormal.

7. In ascites the quantity of saliva is lessened, while the ferment-action suffers but little change.

8. In long-lasting, debilitating diseases, such as scurvy, Addison's disease, and diabetes, the total ferment-power is often diminished.

In studying the ferment-power of the saliva the author has used an abbreviation of a method suggested by Jawein, for the purpose of collecting the saliva to be examined. After having the mouth of the subject thoroughly rinsed with water, the saliva formed by a moderate amount of sucking of the tongue was expectorated through a period of one-half hour and collected, the amount of saliva secreted in this time being from 15 to 25 c.c. For the purpose of estimating the diastatic power, two methods may be employed. The principle of the first depends upon the amount of sugar produced when a given quantity of saliva acts upon a given quantity of a standard starch-solution for a fixed time at a given temperature, a pure potato-starch, thoroughly washed and dried, being used in the preparation of the starch-solution. The second method employed was that of Roberts, which consists in ascertaining the amount of starch-solution, of known strength, which can be transformed by a unit of measure of the diastatic solution to the point at which it ceases to give a color-reaction with iodine in a unit of time and at a fixed temperature, Roberts choosing, arbi-

trarily, as a unit of measure of the diastatic solution, 1 c.c., and as a unit of time five minutes. Both methods are given in detail by the author, each having been applied by him in numerous instances. In order to avoid variations in one's results it is necessary that the saliva to be tested be collected through a uniform period of time, as that secreted through the first moments of stimulation is stronger in ferment-power. Twelve cases are given by the author as having been experimented upon; one of leukemia, six of chlorosis, three of chloranemia, and two of pernicious anemia, the results being as follows: In all the cases the specific gravity and alkalinity were normal. In the one case of leukemia, both the quantity and the amylolytic action of the saliva were normal. In the six cases of chlorosis, four were normal in quantity and ferment-power, one was normal in quantity and slightly deficient in diastatic power, one, the subject of acute bronchitis, being slightly deficient in both. Of the two cases of pernicious anemia, the more advanced showed a very decided sialaporia with no change in the diastatic activity, the other being normal both in quantity and ferment-power. The conclusion reached from these results is that anemia *per se* does not give rise to any change in the ferment-activity of the saliva which is worthy of note. L.

Ulcer of Cornea Due to Malaria

Dr. Henry Bentejac (Marseille) relates in *Recueil d'Ophthalm.* (No. 9, p. 511, 1897) the following case of malarial corneal ulcer. The patient, a man of 60 years, was operated on for senile cataract of the left eye. The right was commencing to be opaque.

Through accident the incision of the cornea, commenced in the arcus senilis close to the sclerotic, had to be made directly outward instead of upward with large flap as intended. The iris was imprisoned and had to be excised after difficult expulsion of a large lens. An antiseptic solution of atropine in bichloride was freely used. After forty-eight hours the conjunctiva was very red, and the use of the collyrium was accompanied by discomfort and followed by violent ciliary pains, also the patient always awoke in the latter half of each night. It was learned that thirty years previously the patient had lived near the Pontine marshes, and had had attacks of malaria of which he was then relieved by doses of quinine sulphate. He attributed the periodic sleeplessness and the ciliary neuralgias to the malarial poison, whose effects were reawakened by the operation.

The edges of the wound were perfectly approximated, cicatrization was regular; but

the surface of the cornea was roughened at the upper angle of the incision in an irregular but clearly limited area by erosion of Bowman's membrane and the superficial layers of the cornea, in a grayish patch of ulceration without adjacent infiltration. It extended along the lower lip of the wound. It was very sensitive, and violent pains were produced by the atropine and bichloride solution. Fifteen grains of quinine sulphate given in the afternoon of each day gave a quiet night, so that subsequently the dressings were without pain. There was absolutely no purulent condition here, and the effect of the quinine confirms the causal relation of malaria to the symptoms found. This illustrates and confirms the opinion advanced by Galezowski at the last Ophthalmological Congress in Paris.

Malaria, as well as alcoholism, by interference with nutrition, creates sclerous tissue, because the nutritive changes in such tissues as the cornea are made with difficulty. Yet the healing of the flaps took place rapidly because of the proliferation of epithelial cells from Decemet's membrane extending, as Ranvier has shown, from within outward, ending with Bowman's membrane, thus chasing all possible infection outward away from the anterior chamber. H.

Alimentation by Hypodermic Injections of Olive-oil

Drs. Fornace and Micheli experimented in five cases with the above method (*Rev. de Thérap. méd. chirurg.*, p. 712, 1897). They injected 50 c.c. (1 1-2 fl. oz.) at a dose. In each case there was a very noticeable increase in the body-weight and an improvement in the general condition; there was a considerable diminution in the elimination of nitrogen. Neither the urine nor the feces showed any traces of fat, nor was there any fatty embolism. In one case, after thirty injections, there were noticed small nodules in the lymphatics, each one enclosing a drop of oil.

The authors consider the nutritive value of these hypodermic injections much superior to that of the nutritive rectal enemata, no bad sequelæ of any kind resulted, and the patients bore them very well. R.

Treatment of Eczema by Picric Acid

Dr. M. A. Broussé, in the *Nouveau Montpellier méd.*, September, 1897, gives the history of a number of cases successfully treated by applications of picric acid. The tincture was used in saturated solutions and applied directly to the eczematous surface. It was found that it had a soothing effect

on the acute oozing eczema, especially those accompanied with edema. The old dry lichenoid cases were not especially affected by this treatment.

The advantages of this remedy are that it relieves the heat and itching, and the edema rapidly subsides.

The watery solution is applied directly to the raw surface; Broussé has never seen it produce any symptom of poisoning.

His conclusions are that it is indicated in acute eczema, and in chronic cases in which there is an acute exacerbation accompanied with oozing. W.

On the Importance of General Therapeutic Measures in the Treatment of Diseases of the Skin

Dr. William Thomas Corlett (*Cleveland Jour. of Med.*, Sept., 1897), in a paper read before the British Medical Association at Montreal, said that the causes of eczema seem to be numerous and varied, and that it is incumbent to study it individually rather than as a class and according to the ability displayed in recognizing the disturbing element, will success reward the treatment we may adopt.

In infants a few weeks old he is accustomed to inquire as to the care of the delicate skin; how the baby is clothed and bathed, and if the excreta are allowed to remain in contact with the skin. These are each prolific causes of eczema at this period of life, and the means of relief lie, not in giving arsenic, but in conforming the care of the child to the ordinary rules of hygiene. Later, between six and eighteen months, it is well to inquire as to the food.

The almost criminal negligence so often encountered in those who refer all cases of infantile eczema to "teething" should also be relegated in most instances to the correction of the dietary.

Acne, although not the next in frequency, certainly ranks next to eczema as the most obstinate to treatment. Not that the disease is especially rebellious to treatment, but because the medical attendant too often looks upon the affection as trivial, or, at worst, self-limited in duration. We do not know any definite cause that invariably gives rise to acne, any more than we do in eczema. We believe, however, that several factors are necessary—both predisposing and exciting in producing the disease.

The changes incident to puberty are the strongest predisposing cause, the various disturbances which are referred to the organs of generation, such as irregular and painful menstruation, frequent involuntary seminal emissions, etc., are capable of ag-

gravating the eruption, and in many instances must be regarded as the exciting cause. Disturbance of digestion resulting in constipation is not only a predisposing, but an exciting cause in a large number of cases, as is also defective circulation with cold, clammy hands, etc.

Aside from local treatment the general integument should not be neglected. A daily cold bath followed by brisk rubbing will invigorate the skin and assist health. The patient should be warned against picking the face, or squeezing out the sebaceous accumulations with the finger-nails. W.

The Sympathetic Nervous System in Infancy

The following deductions are cited by Dr. M. G. Conger, who remarks that the sympathetic nervous system is the first of all the physical systems of the newborn to begin an independent life (*Cin. Lancet-Clinic*, Vol. XXXIX, No. 23):

1. The different systems of the infant are but partially developed, functionally speaking, save the sympathetic, which at birth is as nearly perfect as at any time later.

2. Each system of the body has a certain work to perform in maintaining life and in resisting disease.

3. The efforts of the sympathetic, the most nearly perfect system, are so much greater in proportion than that of the other systems that when the body is attacked by disease we have, as it were, a confusion of the parts of the same army, with a consequent conflict among those parts, instead of a concerted effort against the common enemy.

4. Our efforts in treating disease of the infant, using the same simile, in the main should be directed toward keeping the different systems in harmony and to aid them in overcoming the disease.

5. Lastly, we may have the region of one plexus of the sympathetic excited while another plexus is under an inhibitory influence, necessitating a very careful selection and application of medicines. G.

Sea-bathing and Ear-disease

Morpurgo (*Arch. Ital. di Otol.*, V, 1897) gives the results of his observations of 195 cases of scrofulous children suffering from different ear-diseases, who were treated with sea-baths at the Ospizio Marino at Trieste.

The principal forms of ear-disease were chronic pyogenic otitis media, retraction of the tympanic membrane, impacted cerumen, etc. The nose and pharynx were affected, too, especially by hypertrophic, atrophic, and simple rhinitis, eczema of the nostrils,

pharyngitis granulosa, hypertrophied tonsils, naso-pharyngeal catarrh, etc.

The baths were taken as a rule at 11 o'clock in the morning every day when the temperature of the water was not below 18° R. (72 1-2° F.), and during clear weather. The children were not allowed to jump in the water, and none of them occluded the auditory canal with cotton, except those suffering from otitis media.

The whole treatment ends after from one and a half to three months, and no local treatment is used. The children are well nourished, and stay in the open air as much as possible.

The results are thus summarized:

In twenty-four cases, whose hearing distance was between 0 and 2 meters, it improved from 5 to 15 m. in fourteen of them, there being no improvement in the rest; in twenty-seven, from 2 to 4 m., it improved from 6 to 15 m. in seventeen cases, and no improvement in the rest; in fifty-nine children from 4 to 6 m. it improved from 8 to 15 m. in forty-six. In the rest of the patients the hearing-distance was either not taken on account of their age or there was no improvement. Thus improvement was at least marked in 40.9 per cent. of them.

On the other hand, the improvement regarding the objective symptoms cannot be so exactly stated, although in many cases it was very evident. Among eleven cases of otitis media four improved greatly.

The treatment was very satisfactory in its general and local effects, and no acute complications of any kind appeared.

The general conclusion is that sea-baths are very useful in many cases of scrofula with ear-localizations, and that at least they are not as dangerous as they were formerly believed to be. M.

Pruritus Ani

In an elaborate article on the treatment of pruritus, Dr. José Codina Castelví (*Gaceta Médica Catalana*, Tomo XX, Num. 23, 1897) recommends the following in pruritus ani. Carbolic acid should be administered in doses of from 5 to 50 ctg. (3-4 to 1 1-2 grn.) per day, in pill-form, in conjunction with valerianate, as in the following formula:

Carbolic Acid	0.05 gme.
Extract of Valerian.....	0.10 gme.
Powdered Valerian.....	0.20 gme.

M.—To make one pill.

All excesses should be avoided, and horseback and bicycle riding must be prohibited. The bowels must be regulated, and before each defecation the anus and its margins are to be smeared with vaselin. The

pruritic region should be washed, on arising in the morning and on retiring, with an infusion of coca-leaves, which should be used as hot as can be borne. To this infusion one can add a glycerin-solution of carbolic acid, so that the latter will exist in the mixture in the proportion of 1 or 1-2 per cent. Every third day the parts affected must be touched with a solution of nitrate of silver 5 per cent.

After each movement of the bowels the region is to be washed with cotton soaked in the above solution, and after being cleansed the parts are dusted with a powder composed of talcum and zinc oxide. To calm the acute crisis, a suppository composed of the following may be inserted:

Cocaine Hydrochlorate	} aa 0.02 to 0.05 gme.
Morphine	
Cocoa-butter—q s.	

G.

A Case of Severe Electrical Burn

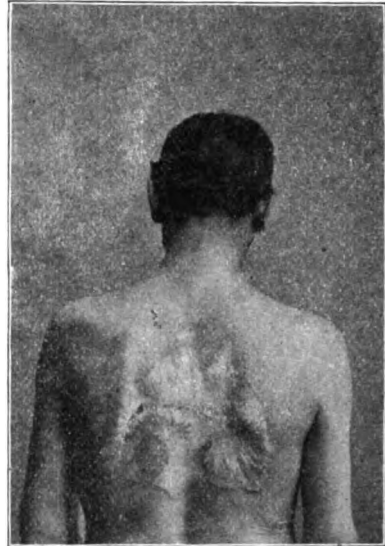
The *N. Y. Med. Jour.* of April 2, 1898, contains the following interesting account of a case from Dr. J. F. Weathers, of New Albany, Ind.:

An electrician employed in the electric plant used to furnish power to the city street-car line and to the arc and incandescent lights for the city, accidentally brought his back in contact with the positive and negative keys of the switchboard of arc-line



furnishing ninety-six street lamps and carrying 4000 volts of electricity. He became impaled, so to speak, on those keys until he was released by the tissues being burned away in two pits about three inches in diameter and down to the bony structures. The intervening space between these pits, which were ten inches apart, was roasted,

and after the lapse of a few weeks was lifted out. It weighed two pounds and a half. I was called to see him immediately after the accident, which was on April 12, 1897. I applied linseed-oil and lime-water, equal parts, pouring the charred cavities full and covering them over with absorbent cotton. I kept this up for three days. I administered opiates to relieve pain, which was



quite severe. The sloughing was something awful; the cotton, bandages, clothing, and bed were saturated with pus. I turned my attention to some dry dressing, and first used boric acid and bismuth subnitrate, but this produced too much pain. I then tried the antiseptic known as vitogen, sprinkling the powder lightly all over the surface, and over all a cloth saturated with linseed-oil was laid. The effect was marked; quietude and sleep followed without the administration of an opiate. This dressing was repeated generally twice a day for many days, and one remarkable feature is that I saw no more pus, and on undressing the wound there was visible no vitogen powder. This treatment was never departed from until September 1, when the patient was discharged. I used eighteen ounces. This man withstood 4000 volts, as all the arc-lamps were extinguished for the time.

New Agglutination-test

Malvor, in *Pasteur's Annals* (July, 1897), gives the following direction:

Take twenty drops each of an emulsion (1 to 10) of typhoid and colon bacilli. Add to each tube two drops of beef-serum, to which has been added 10 per cent. of a safranine solution (1 to 1000). Very clear clumps of bacilli are observed in typhoid cultures, while hardly any groups are noticeable in the colon-emulsion. S.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
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Primary Tuberculosis of the Rectum

Dr. L. Straus reaches the following conclusions regarding this subject (*Matthews' Quart. Jour. of Rec. and Gast.-Intest. Dis.*, Jan., 1898):

1. Primary tuberculosis of the rectum is not so infrequent as some of the leading authorities have taught.

2. It is a surgical disease; as much so as is appendicitis.

3. It is not and cannot be diagnosed by the clinical symptoms as given by the various writers on diseases of the rectum.

4. The only scientific and correct way of making a diagnosis is by the use of the microscope.

5. By thorough curettement or excision, or both, together with cautery, it is not only cured but remains cured much more often than is dreamed of; certainly more often than the teaching of the authorities would have us believe.

6. Some of the apparently most hopeless cases are cured by repeated operations.

7. All suspicious cases should be submitted for microscopical examination, for the reason it is the only scientific method of reaching a diagnosis.

8. Local treatment is not equal to curing these cases; permanent results are to be had by a radical destruction of diseased tissue or the habitat of tubercle bacilli.

9. These cases are and have been cured, and sufficient time has elapsed for us to conclude that they will remain cured.

10. Early and repeated operations, if need be, are imperative, if these cases are to be permanently cured. R.

Treatment of Hypertrophy of the Prostate

Dr. C. C. Jacobs says (*Intern. Jour. Surg.*, N. Y., 1898, XI, p. 66) that one-third of men, after reaching the age of 55 years, suffer from enlarged prostate, and it behooves every physician to familiarize himself with the nature and technique of the operation which will afford the best chance for relief of this ailment. He classifies the treatment under three heads: 1. Attempts to bring about atrophy of the gland by castration; 2. Ablation or excision of the gland; 3. Making an artificial urethra, thus providing a physiological rest for the gland, which is said to bring about a "disappearance of the hypertrophy." Dr Jacobs says that the ideal operation would be the re-

moval of the third lobe of the prostate and the destruction of any bar to the outflow of the urine, and that this could be best done through a suprapubic incision. In those old cases, complicated with cystitis, ureteritis, or pyonephrosis, the best results follow the making of a suprapubic urethra as suggested by Dr. McGuire. Through an incision made just above the symphysis an opening large enough to admit the index finger, is made into the bladder, a catheter is then inserted and left in situ until the wound has contracted to the caliber of the normal urethra. If the operation has been properly done the patient can retain or eject his urine at will. Dr. Jacobs advocates strongly suprapubic cystotomy as against perineal section or castration. If the patient is seen before the secondary infection of the bladder has taken place, prostatectomy may be properly taken into consideration. But in conclusion he says that the "rest" treatment, accomplished by means of a suprapubic urethra, gives the best chance for success. T.

Treatment of Ankylosis of the Lower Jaw

Karl Roser (*Centralbl. f. Chir.*, Berlin, 1898, IV, 122) has had as a patient a man 22 years of age suffering for the past four years from complete ankylosis, caused by a severe bruise to the face. A T-shaped incision was made and the condyle, after considerable trouble, incised. A mouth-gag was then introduced and the jaws forcibly separated, until a thumb could be placed between the front teeth. In order to keep the jaws from coming together again, a cork was fastened between the molars of the upper and lower jaws. A gold plate, kidney-shaped and about the thickness of a ten-mark piece, was bent and curved so as to fit transversely in the joint. It was put in place and a deep row of sutures used to bring the tissues into close approximation. The skin was accurately sutured. After ten days the cork was removed and passive movements begun. One month after the operation the patient was able by himself to open the teeth $1\frac{1}{4}$ cm., and by using the mouth gag $2\frac{1}{2}$ cm. were reached. T.

Brain-tumor; Jacksonian Epilepsy; Operation

In the *Bull. de la Soc. Anat. de Paris*, Vol. II, p. 907, 1897), MM. Cottet and Morély report a case of a brain-tumor giving the following history: Patient was 27 years of age, female and of good constitution. She was always nervous, but from her 21st year she seemed to have periodic outbursts in which the nervousness was more marked,

and for the six months preceding her entrance into the hospital she had slight attacks in which she almost lost consciousness. One month previously she had an attack without loss of consciousness, with feelings of pain on right side, followed by weakness. After her admission to the hospital she had persistent headache, right frontal and right parietal regions. In addition to this there has been some vertigo and buzzing in the ears.

She had sudden acute muscular convulsions affecting the right side only, beginning with the feet and gradually extending to the arms and hands; in most of these attacks, there is no loss of consciousness, though some are more acute and consciousness is lost. Sight was not affected; the fundus was not examined. An extensive operation was performed, but on opening the dura mater nothing was to be found; the tissues were tense, however, and no further steps were taken.

The case died fifteen days after the operation from the effects of the tumor, as the autopsy showed no signs of meningitis.

The tumor was found in the mesial surface of the right hemisphere, situated at the base of the paracentral lobule. It was a small round-celled sarcoma, and was intimately related to the cerebral substance.

J.

Suppurative Chronic Middle-ear Disease and Intracranial Abscesses—Operation and Recovery

R. H. Woods, in *Brit. Med. Jour.* (Jan. 22, 1898, p. 209), gives history of a case in which the services of Prof. Macewen in co-ordinating and elevating the treatment of brain-abscesses are illustrated.

Man of 28 years, a railway guard, had fifteen years previously had scarlet fever, and seven years before commenced to have from left ear discharge of fetid pus. This stopped seven days before being seen by the writer, and then he commenced to have violent throbbing headache on left side and occipital region, with loss of appetite, thirst, and chills. When admitted to hospital was dazed, pupils dilated (right more than left), eyes prominent, tongue furred and brown. He was perspiring and covered with sudaminous rash. Had great pain in right iliac region. Upper angle of left posterior triangle of neck was very tender. No paralysis; stools yellow. Typhoid was excluded. Patient frequently lost consciousness. Cerebration was slow. Forgot names of things, though he could tell their uses. He answered incoherently. Pulse feeble. Opisthotonos during a rigor. Ophthalmoscope showed double optic neu-

ritis. Urine acid, precipitation of urates, little albumen, no sugar. Pus-curve on frequent reading of his temperatures.

First operation.—Opening of Birmingham's triangle in mastoid revealed fetid cholesteatomatous matter. The sigmoid sinus was opened up and found to be softened, and lumen plugged with a septic thrombus. This was scraped away with a Volckmann's spoon after slitting up the sinus. Lifting the dura revealed abscess in the cerebellar region of the petrous bone, from which 2 dr. of fetid pus were removed. The cavity was washed, drained, and dressed. This abscess being extradural, had marked symptoms due to intracranial condition which now kept up in form of stupidity and amnesia.

Second operation.—Trephined button over lateral sinus above mastoid process, so as to effect entrance above and below the tentorium. Needle drew nothing from the cerebellum, but, on third insertion, drew pus from the temporo-sphenoidal lobe. This was next entered with catch-forceps along the track of the needle, and the forceps were opened. On being withdrawn, 4 dr. of horribly fetid pus flowed out. Cavity was washed with carbolic solution and drainage-tube inserted. Patient slowly and steadily recovered. In ten days albumin disappeared from urine and temperature became normal. He recovered from amnesia, but was irritable and irrational. Repair of flesh rapid. When field of vision was examined in right eye, December 2, there was incomplete homogeneous hemianopsia from involvement of some optic radiations in the temporo-sphenoidal lobe. Six weeks later this was practically recovered from. Two epileptiform seizures occurred after his discharge from hospital that were found to be associated with constipation. He is able now to attend to his duties on the railroad.

H.

The Surgical Aspect of the Pathology of Tuberculosis of the Bones and Joints

E. H. Nichols (*Bost. Med. and Surg. Jour.*, Jan. 27, 1898), in a description of the relations to surgical operations of the lesions found in tubercular disease of the bones and joints, and based chiefly upon a series of observations made during the past two and one-half years, offers the following summary:

Many observations prove that tubercular disease of the bones and joints is caused by the tubercle bacilli. Injuries of moderate severity favor the production of the disease. In the bones the disease begins in the epiphysis, and is more extensive than appears on gross examination. Hence, in

operations for removal of the disease, a considerable margin of apparently healthy bone must be removed. Tuberculosis of the joints is generally, if not always, secondary to tubercular disease in the epiphysis of an adjacent bone. Abscess-formation is due to extension of the tubercular process to the soft parts. The contents and wall of the tubercular abscess are different from those of infectious abscesses. Partial removal of the abscess-wall is harmful. Repair is caused by the formation of fibrous tissue, which replaces and partly encapsulates the tubercular tissue. Repair may be incomplete. Fibrous tissue may produce fibrous ankylosis, or the tissue may become ossified and lead to bony ankylosis. Paraplegia in Pott's disease is rarely due to direct bony pressure. Usually the pressure is caused by tubercular peripachymeningitis. Rarely the pressure causes degeneration of the cord. L.

Paracentesis of the Drum-membrane

The chief indications for paracentesis of the drum-membrane, as practiced in Dr. Randall's ear-clinic, are published in *The Phila. Poly.*, Vol. XI, No. 42, as follows:

1. When there is great pain associated with a bulging membrane due to retained purulent secretion and the proper drainage-canal through the Eustachian tube to the nares is impervious to gentle Politzerization.
2. When the tension of the drum-membrane is high, but the bulging is slight, because the membrane has been thickened by a chronic otitis media.
3. When there is insufficient drainage for the pus and there is danger of the extension of the inflammation to the antrum and mastoid.
4. When the pain is excessive and unrelieved by the hot douche, and the tension of the membrane is high, paracentesis may be performed simply for relief of the pain. B.

Cysts of the Epididymis and Their Relation to Hydrocele

Kirby and O'Malley (*Univ. Med. Mag.*, Jan., 1898) classify cysts of the epididymis as: 1. Subserous; 2. Ectasic; 3. Cysts following hemorrhage beneath the tunica albuginea. The better to understand their etiology, important anatomical points must be considered, such as the fact that the testicular parenchyma forms the seminiferous tubules; these are convoluted and twisted upon themselves, and held together by a dense connective-tissue membrane, the tunica albuginea, and between which this tissue forms septa, the rete testis. From the rete testis there are about twenty vasa efferentia, each about twenty centimeters long,

so convoluted and twisted as to form small spheroidal bodies. The diameter of these canals varies. The lumen of the tubules before entering the rete testis is two-tenths millimeter, while in the rete it is the size of the smallest capillaries. From this point the vasa efferentia are six-tenths millimeter, and in the canals again four-tenths millimeter. Thus it can readily be understood that there are two positions which anatomically predispose to the formation of cysts, at least spermatoceles, because the dilated areas permit of congestion and stagnation of secretion. It has been shown that the presence of the vasa aberrantia or organ of Giraldis is more or less constant, and that the remains of the duct of Rosenmüller, the analogue of the parovarium, is likewise frequently present. Several reported cases of cyst have undoubtedly been located in the body called the hydatid of Morgagni, but such is not the usual state of affairs. While many authors claimed the blind extremity of the vas of the rete testis as the seat of cystic formation, in the fifteen cases brought to the notice of Kirby and O'Malley, the cysts did not correspond in position to that usually held by the vas, but was more usually in advance of the coni vasculosi and on the anterior surface of the epididymis. In all cases but one, a previous history of gonorrhea was elicited, but in none of the cases was there any history of an associate acute inflammatory condition of the epididymis. There is not always a communication between the vas of the rete and the tubules, as has been demonstrated on many occasions by the injection of mercury. It seems highly improbable that the small cysts do not communicate with the seminal tubules, but that the large cysts do, which may be understood by noting the anatomical construction. The cysts vary in size from a pea to a hen's egg, and may be single or multiple, the latter being the more common. Their contents may be either simple serous fluid or at times a milky fluid, the latter variety being considered usually as spermatoceles, the microscope failing to reveal the presence of spermatic particles except in three of the seven cases examined containing milky fluid, the other four containing a large quantity of finely divided fat-globules. It is possible that a cyst may have originally been one of the serous variety, a rupture of one or more of the seminal tubules permitting the escape of spermatic particles, a true spermatocele resulting. Having recently adopted the open method as a routine treatment of hydroceles, the writers have been impressed with the great frequency with which encysted hydrocele of the tunica vaginalis is associated with cysts of the

epididymis, being found in both the young and the aged. In castrations for the relief of enlarged prostate they have been uniformly present. While the mere presence of simple cysts in the epididymis is in itself perfectly harmless, several cases are known in which the testicle has been removed for tuberculosis and cystic sarcoma, an examination of the excised organ revealing the presence of simple cysts. When small the diagnosis is difficult; when large, transmitted light will reveal the presence of fluid. These should be treated by incision and drainage, the same as hydrocele. A careful perusal of the literature suggests the theory of retention as the cause of formation of these cysts as the most rational one. L.

Transplantation of Bones from a Dog.

Dr. Duebar (*Deut. med. Woch.*, No. 52, 1897) related the following case at the Académie de Méd. de Paris. In 1891 he removed five carpal bones from a girl 10 years old, who was suffering from tuberculosis of the right wrist, and after curetting the contiguous ends of the metacarpi and the bones of the forearm he filled the irregular cavity with five cartilaginous pieces of bone, taken from the lower end of the femur of an eight days' old dog, freshly killed. The wound healed well, and he had not seen the patient for six years, when she appeared again at the clinic, and a radiograph of her wrist was obtained. The bones were found intact, all but one grown in size and changed from an oblong into an oval shape, and surrounded by newly formed connective tissue. The wrist is movable and painless, the girl being able to do sewing and knitting without any inconvenience. S.

Retroesophageal Abscess

Crozer Griffith (*Univ. Med. Mag.*, Jan., 1898) reports in detail a rare case of retroesophageal abscess, occurring in a child 21 months old. When about 1 year old he had a mild attack of pneumonia, recovering completely therefrom. Six months subsequently he developed a troublesome cough, which subsequently developed into a metallic, croup-like character, accompanied by rather noisy breathing at times, brought on by the least exertion. The child was fairly well nourished, though the head was slightly rachitic in shape and the fontanelle still open. The chest, however, was not noticeably rachitic, but the transverse furrow below the nipples was very marked on inspiration, and the lower part of the chest was sunken in very decidedly, as though by the pulling of the diaphragm. With each inspiration

there was a noisy, rattling sound of mucus in the bronchial tubes, the chest showing no percussion-dullness, however, nor any alterations of respiratory murmur. The cough being characteristic of stenosis, the absence of hoarseness made the diagnosis plausible of stenosis of the trachea or bronchi from mediastinal tumor or tubercular glands. Tracheotomy was performed without relief of symptoms. Autopsy developed an abscess-cavity containing several ounces of pus, situated behind the trachea of both bronchi, reaching upward over the first thoracic vertebra and downward to about two inches below the bifurcation of the trachea. The anterior surface of the body of the first thoracic vertebra was eroded sufficiently to allow the tip of the little finger to enter the hole formed. The esophagus lay to the left and was closely adherent to the wall of the abscess. There was no abnormal spinal curvature present. L.

Restoration of the Normal Mucous Membrane over Large Surfaces after Solution of Continuity

Cornil and Ranvier (*La Bul. méd.*, No. 104, p. 120, Dec. 29, 1897) made experiments on dogs and rabbits by incising the mucous membrane of the biliary vesicle, the cornua of the uterus, and the ileo-cecal appendix, and tying apart the lips of the incised wound 2 to 5 mm. to ascertain the nature of the repair. The edges were so sutured that they were maintained on a level or slightly convex, to overcome the natural eversion. Fifteen to twenty days afterward it was found that normal mucous epithelial tissue and its proper glands had grown into the whole of the interspace. The authors conclude that canals or mucous reservoirs tend to repair solutions of continuity in their surface by filling in with normal mucous tissue, and that they tend to maintain themselves as hollow cylinders or sacs. H.

Neuropsychic Manifestations Subsequent to Fractures or Dislocations

T. H. Manley (*Med. Times and Register*, Feb. 26, 1898) states that the immediate and remote effects of various fractures may, in a measure, be predicated by the region of the body or bones in which they occur, much depending on whether the traumatism is in near contact with an articulation or important organs. There are those who never quite survive the shock of fractures, notably so when great concussion-force has been simultaneously sustained by the whole body; or when the circumstances attending the accident are such as to violently impress

the emotions. The pleurisy and emphysema, at times following severe costal fractures, the complication of synovitis when a joint is involved, the overtension or laceration of nerves, and the necessary protracted fixation of the limb are all productive of pain and wear upon the system. System-conditions, such as hysteria, rheumatism, syphilis, tuberculosis and neuralgia, are factors in neuropsychic phenomena after trauma. A patient's suffering may be augmented or his comfort enhanced by special mechanical appliances, mainly because of the peculiarities of different individuals. Certain fracture-dislocations are almost invariably followed by defect in function, pronounced evidences of nutritive changes, of vascular disturbances and of atrophy being noticed. Paralysis, paresis, or hyperesthesia, with marked or atrophic interstitial changes in a limb after fracture in a sound subject, point either to a vascular or neural lesion, the latter probably supervening on the former. As regards psycho-neural phenomena in relation to diagnostic aids and diagnosis, the latter may be as desirable to relieve worry and impart confidence as treatment itself. We are often confronted, however, by such complex conditions as to render the proof of the presence of a fracture quite impossible, especially when the fixed or deeply lodged bones are involved. The surgeon in such a dilemma now turns to the Roentgen rays. L.

The Technique of Needle-operations upon the Lens and upon the Capsule

Dr. Edward Jackson (*Amer. Jour. Ophth.*, Jan., 1898) considers that certain points with reference to needle-operations on the crystalline lens, and upon the capsule after the removal of the lens, are not sufficiently discussed in the recent text-books or elsewhere in ophthalmic literature. The first point is that it is sometimes very important to clearly differentiate the operation of discission to produce absorption of the lens from the division of a membrane remaining after the lens has been removed. After discission the liability to pericorneal redness, photophobia and pain is directly increased in proportion to the amount of unaltered or slightly altered lens-substance lying free in the anterior chamber. The object to be aimed at in these operations is, therefore, the greatest breaking up of the lens with the least escape of lens-substance into the anterior chamber. This is to be attained by making the incision in the capsule small, while allowing free movement of the blade within the lens-substance. This is only possible when we can bring the opening in the capsule close to the opening in

the cornea. The corneal wound must be in front of the pupil, and the aqueous humor must be allowed to escape through it before proceeding to stir up the lens-substance.

In contrast with the above is the need for overcoming the elasticity of the membrane and making as large an incision as possible in the division of the thickened capsule after lens-extraction. The object here is accomplished by placing the corneal wound which serves as a fulcrum, as far from the incision in the capsule as possible, and preserving the distance between them by retaining all the aqueous humor throughout the operation by using a needle with a shank large enough to fill the corneal incision.

A second point is that where there is to be much sweeping of the knife-needle, as for the division of a tough membrane it is best to make the incision not through the clear cornea, but through the overlapping vascular tissue of the limbus. By doing this we lessen the danger of infection as well as get a greater sweep of the blade.

A third point is that in dividing capsular remains after cataract-extraction we should, as far as possible, plan our incision so as to cut through the bases of any posterior synechia that may be present.

A fourth point is that in dividing a thickened capsule, unless the pupil be quite large, it is not best to attempt a crucial incision. After the first incision has been made the membrane becomes so relaxed that it is impossible to cut from the original incision. The needle must then be entered at the margin of the pupil and made to cut toward the incision. For a crucial incision this necessitates the introduction of the needle on both sides. One is more likely to be successful in making a T-shaped incision. G.

Drainage in Empyema of the Antrum of Highmore

E. W. Roughton (*The Laryngoscope*, March, 1898) tells us the antrum can be opened and drained through the nose, through an empty alveolus or through the canine fossa.

With many rhinologists the nasal route is the favorite method of draining the antrum. The writer, however, uses the alveolar method of drainage almost exclusively. Even when the canine-fossa operation is likely to become necessary, it is advisable to establish an alveolar drain, because an opening in the canine fossa, although well adapted for cleansing out the antrum, is unsuitable for drainage. Should the teeth be sound, the drainage should be provided through the inferior meatus of the nose.

The alveolar opening may be made with

one of the different forms of perforator, or by means of a burr worked with the dental engine. The anterior buccal socket should be selected. It is possible to open the antrum through the inner or palatine socket, but it is also possible to perforate the floor of the nose by mistake.

When the opening has been made, an efficient drainage-tube must be fitted and attached to the adjacent teeth. To be efficient, an alveolar tube should have a lumen of not less than an eighth of an inch, should be the proper length and should have a plug which can be inserted at meal-times. The tube should be of such a length that its upper opening is flush with the floor of the antrum. The length of the alveolar perforation (and therefore of the tube that is to be fitted) can be measured by means of a small *bougie à boule*. The head of the bougie should be just small enough to pass easily into the antrum; on withdrawing it, the finger at once detects when the head impinges on the upper end of the canal. The thumb-nail being then placed on the bougie opposite the margin of the gum the instrument is withdrawn and the length from the nail to the neck of the bougie carefully measured.

The author concludes his paper, remarking that it is well to remember that all cases of empyema antri are not alike. In some the lining membrane secretes pus, but is not otherwise altered. These cases will be cured by drainage. In others the antral lining is so altered that it is incapable of being restored to the normal condition. For these curettement is necessary. There is yet another class of cases in which the antrum is not a producer but simply a receiver of pus, which has been generated in the frontal sinus or fronto-ethmoidal cells. In these cases recovery cannot be expected until the source of pus has been detected and efficiently treated. G.

Tracheotomy as a Palliative Operation in Malignant Disease of the Neck

The conditions in which tracheotomy is advised as a palliative operation are, according to T. L. Rhoads (*Dung. Coll. and Clin. Rec.*, Vol. XVIII, No. 12, p. 224):

1. Recurring malignant tumors of the thyroid gland or isthmus. In the former, the flattening of the trachea usually occurs from side to side; in the latter, from before backward. Extension of the disease into the adjacent tissues, including the trachea, takes place very rapidly in cancer of the thyroid gland.

2. Advanced malignant disease of the glands of the neck, secondary to epith-

elioma of the tongue, with dyspnea resulting from pressure.

3. Inseparable sarcoma of the glands of the neck with pressure-symptoms, particularly if the growth be a recurrence of one previously removed, is massive, and is rapidly increasing in size.

4. Cancer of esophagus, with labored breathing, rapidly growing worse. In connection with the subject, the writer reports in detail an operation for the removal of multiple sarcomata of the neck, in which operation he assisted Dr. Keen. The patient had relief from oppressive symptoms for about eight months, after which the growth rapidly reappeared, and being of such size and invading the tissues so extensively as to be then considered inoperable, tracheotomy was performed by the writer, it being necessary to cut directly through the malignant mass in order to reach the trachea and get below the constriction. In the selection of the site for operation everything will depend upon the extent to which the disease has encroached upon the trachea. The object must be to get below the seat of the constriction with the lower end of the tracheotomy-tube, and it will depend upon the size of the growth and the tubes at hand whether the trachea shall be opened above the seat of constriction, and a long trachea-tube inserted, or whether the trachea shall be opened below the seat of pressure and a short tube inserted, or if it be necessary to cut directly through the growth. As a rule, the high operation—that is, above the isthmus of the thyroid body—is to be selected, if the size of the tumor permits, as the venous branches are more rare here and the great vessels are in less danger of being injured; yet the inroads of the disease may make this part of the trachea unusually difficult to reach and may make a low operation more simple, even though the veins are much larger in this location and the trachea is normally more deeply seated. On account of the great dyspnea and laryngeal irritation from which these patients suffer, it is usually undesirable to give an anesthetic by inhalation in performing the operation, it being preferable to administer a full dose of morphine and atropine hypodermically, the patient half reclining on an easy chair or propped up with pillows; after a short interval, from 1 to 4 drams of a 2-per-cent. of eucaïne or cocaine should be injected at various depths down to the trachea. L.

Arsenic should be administered in dry dermatoses only, moist skin-diseases are made worse by it.—*Jour. de Méd.* S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

Painful Menstruation—Causes and Treatment

In reviewing the subject, Lawrence (*Int. Jour. of Surg.*, Vol. X, No. 30) presents the following conclusions:

1. Painful menstruation is not a disease, but merely a symptom found in various pelvic diseases.

2. Those classifications which place it as a disease are misleading and should be discarded.

3. The physiology of menstruation, a thorough knowledge of pelvic pathology, and a broad, careful habit of study and thorough ease-taking, are necessary in order that menstrual pain be rightly construed.

4. Many of the cases due to the uterus, tubes, or ovaries, may be cured in the early stages by simple means, whereas neglect places them in a position demanding serious operative treatment.

5. Painful menstruation in a sterile patient is strong evidence that there is tubal inflammation with occlusion of tubes.

6. Operative procedures should be reserved for those cases in which there is a positive pathological indication; neurotic and anemic cases being treated by other and more appropriate measures.

7. As a symptom, menstrual pain is often of such grave import that it should always receive the most painstaking study. If this be the rule, many a case will be cured without operation. O.

Fracture of the Femur near the Hip-joint during Parturition

Drs. Wilkinson and Harvey, of Bermuda, reported this interesting and rare condition in the *Polyclinic* (Vol. X, No. 4):

Mrs. —, Dec. 22, 1890, was delivered of a female child. Breech-presentation and in labor twenty-three hours. As the mother was failing and the thigh and legs could not be brought down, in order to expedite delivery a silk handkerchief was passed over the thigh and groin and the child delivered by strong traction.

The thigh was discovered to be fractured at the point where the handkerchief had rested. After a diligent search of the surgical literature on this subject, a single case was found in "Wyeth's Surgery," which occurred in his practice. The authors observed that the fragments could not be brought in apposition with the leg and thigh

in extension. Following the directions of Wyeth, they placed the extremity in the position assumed *in utero*, the thigh flexed on the abdomen, the leg flexed on the thigh, enveloped the parts with flannel bandages and applied plaster-of-Paris rollers from the axilla to the pelvis, and over the broken thigh and leg as far as the ankle.

The dressing was removed at the end of four weeks. Union was perfect. There is no shortening, and the child, several years after birth, walked without any difficulty or indication of lameness. U.

Office Gynecology

Dr. Thomas B. Eastman (*Indiana Med. Jour.*, February, 1898) believes that in nitrate of silver we have a potent agent in the treatment of pathological conditions of the cervical mucous membrane, especially in the treatment of slight lacerations, and therefore in the prevention of cervical carcinoma, caused in the vast majority of cases by the prolonged localized irritation incident to these fissures when long neglected. The Pharmacopeia describes a No. 2 lunar caustic, consisting of 67 per cent. of potassium nitrate and 33 per cent. of silver nitrate. This preparation, fused on a silver probe, after the method of Lente, should be lightly applied to the diseased parts and the excess removed with a pledget of cotton. It should not be used oftener than every five or six days. Many cases require a much weaker dilution, to be made by dissolving the silver-potash preparation in water.

In the tampon properly placed we have an efficient remedy. A tampon may be used as a means of keeping various medical compounds in contact with the parts adjacent to the uterus, or it may be used as a mechanical device, or both, but it is in a mechanical way that its best effects are seen. Placing a tampon does not consist in stuffing the vagina with cotton or wool. A tampon should be placed definitely for a definite purpose. Ovaries prolapsed into Douglas' cul-de-sac, and adherent to its peritoneum, are a source of much distress to many women, and yet in not a few cases there is no pathological condition in the ovaries themselves which a restoration to a proper position would not rectify. In these cases a tampon placed in the vaginal fornix in a postero-lateral relation to the uterus, leaving a space behind the cervix, so that a tampon placed anteriorly forces the cervix toward the sacrum, tends to support the ovary and to remove the strain put upon its natural support, and thereby restore the circulation and relieve the congestion.

A vaginal douche, to be of any benefit in the long list of pelvic inflammations, such

as oophoritis, salpingitis, parametritis, and inflammatory exudates, for the treatment of which it is so admirably fitted, must possess three indispensable qualifications:

1. The water should be gradually heated to a temperature of 120° or 125° F. and maintained.

2. It should be used with such a device as will completely occlude the ostium vaginae, and thereby permit of maintaining a body of water in the vault of the vagina.

3. It should be used in large quantities. A double-flow douche, which will protect the external parts, is necessary. Hildebrandt's douche has given the best results in the author's cases.

In cases where the ovary is large and tender to the touch, the accompanying congestion may be very materially relieved by the use of a sponge-covered electrode, connected with a positive pole of a galvanic battery placed well back in the vagina beneath the ovary, with the negative pole placed on the abdomen above. It should be used every other day, and in the intervals the ovary should be supported by a tampon. When the ovary has become less tender and the local congestion diminished, bipolar faradization, fine wire, or secondary current every third day will complete the symptomatic cure. Again, most of the painful conditions in the pelvis may be benefited by the sedative effect of the fine wire faradic or the positive pole of the galvanic battery.

In the last three measures described—tampons, douches, and electricity, combined—we have the means of obviating the necessity of many operations, but they must be used wisely, not after sound judgment demands operative procedure. G.

The Fate of Ovaries in Connection with Retroversion and Retroflexion of the Uterus

In a valuable article upon the foregoing subject, Goldspohn (*Amer. Jour. of Obstet.*, Vol. XXXVI, No. 238) offers the following conclusions:

1. In all cases of retroversion and retroflexion a knowledge of the ovaries, as to their location, mobility, and general physical condition, should comprise an essential part in the diagnosis, as determining largely the nature and urgency of the treatment.

2. The welfare of ovaries in general demands such a degree of anterior inclination of the longitudinal axis of the uterus as will enable intra-abdominal pressure to bear upon the posterior surface of the uterus, and thereby to act in unison with its other supports to retain it and its adnexa in normal position and function.

3. Inasmuch as in the female pelvis, as

well as elsewhere in the human body, the natural and considerable abilities of healthy tissues to defend themselves against microbic invasion (infection) are lowered or annulled in direct proportion to any degree of mechanical embarrassment of the venous circulation in the tissues or organs, it behooves gynecologists especially to be alert in recognizing and correcting all material anomalies in place or posture of the female generative organs or in securing to them their normal freedom. L.

Multiple Myomata in the Abdominal Cavity

Dr. Bache Emmet (*Am. Gyn. and Obstet. Jour.*) reports a rare case of a large solid mass, extensively covered by omental and intestinal adhesions, removed from the abdominal cavity of a woman aged 25. It was attached over the fifth lumbar vertebra, ten by twelve inches, base one and a quarter inches in diameter. Of dense white tissue, it was pronounced by the pathologist to be a myofibroma, he being also of opinion that at one time it had been attached to the uterus, from which it had its origin. The author considered the mass to be retroperitoneal, however, as it had raised the ureter upon its surface, and he supposed it to be a fibrosarcoma. There was no evidence of uterine disease, the left ovary, being cystic, was removed. The right tube and ovary were normal. As the left ureter was severed a uretero-ureteral anastomosis was done. Seventeen months after operation the patient was delivered of a boy, by forceps, her physician stating further that, after delivery a large hard mass, which had been crowded well to one side, was found on the left side. This tumor was presumably a return of the fibroid at the original site, having the same sense of hardness, irregular contour, and being more or less movable. Six months later, another smaller tumor developed on the right side, the former having in the meantime increased in size. A second abdominal section was performed upon the patient, with the result that the tumors found crowding about the uterus were not in any way attached to it, but to the omentum on all sides, the adherent small intestine mostly surrounding it. The tumors appeared to be attached by a pedicle consisting of a large number of blood-vessels and omentum. The bases were transfixed, doubly ligated and the tumors removed, seven in all, each tied off separately. These examined under the microscope proved to be nearly pure myomata. The seventh tumor had the appearance of a kidney, and was firmly adherent over the spinal column, being implanted directly

over the uretero-ureteral anastomosis of two years previously. The final history of the case, as reported some months subsequently, was that her condition was satisfactory and most wonderfully so. There has been no tendency towards return of the growths, no pain, and the patient has gained in weight. L.

An Unusually Severe Case of Double Mastitis necessitating Radical Surgical Interference

T. R. Marshall, of Richmond (*Med. Reg.*, Nov. 15, 1897), reports the foregoing, the patient being a young mulatto girl who had been attended in confinement by a "granny," labor being evidently normal. The child was put to the breast, but after the third day the breasts enlarged so rapidly that the child had difficulty in withdrawing the milk, the child therefore being fed on cow's milk and the breasts milked by hand. Subsequently, recognizing that pus was present, several small incisions were made, but with little effect. The breasts became enormous in size, the circumference of the base of the left breast measuring thirty-six inches, and protruding forward from the pectoral muscle eight and one-half inches. The circumference of the right measured thirty-three inches and protruded nine inches. The temperature was at this time 107.5°, toxemia being present. After making three incisions at different points, beginning at the base and terminating at the areola around the nipple, the pus and disintegrated breast-structure being entirely removed, which, in so doing, removed most of each breast, the cavities were thoroughly irrigated, packed with gauze and strapped. The wounds were dressed each day subsequently, the temperature being normal on the third day. L.

Normal Saline Solution in Obstetrics

C. S. Bacon, of Chicago (*Medicine*, 1897), after considering the various indications for hypodermic injection of salt solutions, gives the following details as to apparatus and method of employment: The apparatus used is a reservoir consisting of a can or bottle of enameled ware, with a spout from the side at the bottom. To this spout is attached a rubber tube about three feet long and closed with a clamp. Into the other end of this tube a hypodermic needle may be inserted. In order to introduce the solution into two places at once, a glass Y is used, to the stem of which the tube from the bottle is attached, and to each branch smaller tubes carrying needles. The apparatus should first be sterilized by boiling. If the tubes have not come into contact with

septic matter, it is sufficient to run through them an antiseptic solution, followed by plenty of sterilized water. The salt solution (eight parts to a thousand) is then poured into the reservoir, the injection being made on the inner side of the thighs, as the most convenient place. Before introducing the needles the skin is thoroughly washed, the reservoir being then raised sufficiently to secure the necessary pressure. Constant massage is made to assist in absorption of the solution. In this way twenty-four to thirty-two ounces may be injected in fifteen minutes. L.

Vaginal Examinations in Labor

The too frequent vaginal examinations in labor are, according to Prof. Leopold (*Munch. med. Woch.*, No. 40, 1897), entirely superfluous and injurious, one examination being, in his opinion, entirely sufficient in normal cases. The course of labor ought to be ascertained by abdominal palpation. S.

A Case of Hemato-chyluria

Ohmann-Dumesnil, of St. Louis (*Tri-State Med. Jour.*, Dec., 1897), in reporting a case of hemato-chyluria, states that it had so far departed from what is usually seen as to form a real curiosity in medicine. The patient was a married woman, 33 years of age, having had two children and several miscarriages. Physically, she was weak and somewhat emaciated. She passed enormous quantities of urine which, upon standing over night, was found to be a jelly-like mass, of a milky hue. The relative quantity of blood, chyle and urine present spontaneously separated upon standing, the chyle having rather an oily appearance. Growing progressively weaker, she died two weeks later from general exhaustion, the hemato-chyluria never ceasing, the large loss of blood evidently increasing the asthenia present. Careful examination under the microscope failed to detect the presence of the *Filaria Bancrofti*, which is the most frequent cause of chyluria and hemato-chyluria, especially in the tropics. Therapeutic measures proved of no avail. L.

Climate and Menstruation

From a careful study based upon over 3000 patients, between the ages of 10 and 19 years, Joubert, in the *Indian Med. Gaz.*, arrives at the conclusion that the reason girls in tropical countries menstruate at a relatively earlier age than Europeans is not because of the influence of the climate, but because of too much sexual excitement.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Peronin as a Narcotic

According to Dr. Stampfl (*Therap. Monatsh.*, XII, p. 64), peronin is a mild narcotic and sedative, resembling codeine in its effects. The author has employed the remedy in forty cases in which irritation produced cough, and in pain, in doses of from 0.02 to 0.06 gme. (1-3 to 1 grn.), given in solution, pill, or tablet. As by-effects, he observed at times perspiration, tickling in the throat, headache, and itching of the skin. In whooping-cough it has also been recommended, and is said to be readily borne by children, the doses given being as many milligrammes as the patient is years old. F.

Sodium and Mercury Hyposulphite in Syphilis

Dr. A. Miceli (*Sem. méd.*, VXIII, p. 26) has used hypodermic injections containing 1 per cent. of the readily soluble sodium and mercury hyposulphite, in syphilis, with success. One cubic centimeter (16 min.) of the solution, equivalent to 0.01 gme. (1-6 grn.) of the salt, is injected into the buttocks every other day; in severe cases every day. The solution is rapidly absorbed, is but slightly, or not at all, painful, and never causes persistent infiltration. Moreover, the author finds that the remedy exercises a favorable influence on the general condition of the patients, indicated usually by an increase of weight on their part. The author treated fifteen cases in the above-described manner, the remedy being perfectly tolerated, and the therapeutic effects being promptly manifested. F.

Stomoosins

Centanni (*Brit. Med. Jour.*, No. 1930, p. 103), in a long and elaborate contribution, describes his researches on the subject of the purification of vaccines. He has succeeded in isolating certain immunizing substances from the pneumococcus of pneumonia, which he calls "stomoosins," whose property it is to unite with certain molecules in the body (stomoosites), and so form a more or less chemical body whereby immunity is established, the idea being that these molecules are, as it were, open chains, which become closed by union with the stomoosins. These stomoosins are again divided into ischio-stomoosins, described as immunizing bodies with strong specific

character, innocuous, of rapid action, and having strong affinity for the tissues, which retain them for a long time; anischo-stomoosins, differing from the former in that they have little affinity for the tissues; and stomoosins, having a protective action against several toxic and infective principles. These three groups are each prepared in the vaccinal culture. Their methods of production and properties when isolated are respectively described. Experiments were made with endovenous, subcutaneous, and intraperitoneal injections of the stomoosins of pneumococcus, the results of which are given in detail; and, finally, there is an account of certain proceedings with stomoosin preparations and pneumonia. F.

Bromalin as a Sedative

Dr. Böhme has recently reported (*Merck's 1898 Bericht*) having used bromalin in two cases of well-pronounced bromine exanthema. Although complete disappearance of the exanthema was not brought about by the remedy, yet a favorable effect was exercised by the bromalin, which exhibited a more powerful sedative action than the potassium bromide previously used. According to the author, bromalin is the only remedy that perfectly replaces the bromides of the alkalis, and that is almost entirely free from the by-effects of the latter. F.

Diagnosis of Posterior Urethritis by Means of Pyoktanin

Dr. E. Lehrwald states (*Sem. méd.*, XVIII, p. 18) that the following is a precise means of diagnosing posterior urethritis: The urethra is first washed with a 0.5- or 1-per-cent. boric-acid solution, then a ¼-per-cent. pyoktanin solution is injected and retained for five minutes in the canal, and finally the urethra is again washed with the boric-acid solution until the washings pass colorless. The patient then urinates, and if the urinary filaments passed are found to be colored violet, it is an indication that they come from the anterior part of the urethra. If, on the contrary, they are colorless, they come from the posterior part. F.

Creosote in Large Doses in Phthisis

Dr. H. Campbell (*Sem. méd.*, XVIII, p. 26) states that, in order to obtain certain results in a number of phthisical cases he was compelled to employ creosote in very large doses. Several patients, he found, were able to absorb progressively, without the least inconvenience, from 10 to 14 gme. (2½

3 1-2 fl. dr.) of beech-wood creosote per y, given in three or four doses, dissolved cod-liver oil. By means of these enormous doses, which alone enabled the therapeutic effect to be obtained, the patient becomes so thoroughly impregnated with the edicament that the sputa and all the secretions have an intense odor of creosote.

Dr. C. W. Graham (*ibid.*) has also observed a case in which the dose of creosote as carried from 6 drops to 680 drops per ay, and was well borne. F.

Salitannol

"Salitannol" is the name recently given *Pharm. Ztg.*, Vol. XLII, p. 787) to a condensation-product of molecular quantities of salicylic and gallic acids, by the action of phosphorus and oxychloride. The compound has the formula $C_{14}H_{10}O_7$, and is entirely different from salicylid or tannin in its properties. It occurs as a white, amorphous powder, insoluble in water, ether, chloroform, or benzine, and but sparingly soluble in alcohol. It is insoluble in solutions of alkaline carbonates in the cold, but is easily dissolved by caustic alkalies, being again precipitated by acids. It melts at $210^{\circ} C.$, undergoing decomposition.

Salitannol is said to combine the antiseptic properties of both salicylic and tannic or gallic acids, and is recommended for use as a surgical antiseptic on account of its indifferent chemical character. F.

Formulæ for Post-Influenzal Bronchitis

The following formulæ are recommended in bronchitis following influenza (*Centralbl. f. d. ges. Therap.*, XVI, p. 60):

1. Quin. Hydrochlor. . . 15 grn. (1 gme.)
 Antipyrin 15 grn. (1 gme.)
 Ac. Benzoic. 4 grn. (0.24 gme.)
 Alcohol q. s. to dissolve the acid.
 Sig. Amm. Anis. . . . 50 drops. (3.6 c.c.)
 Vin. Antimon. 2 dr. (8 c.c.)
 Syr. Aurantis. 1 oz. (30 c.c.)
 Inf. Senegal (e. 2 dr.) . . 7 oz. (210 c.c.)
 S. Shake well. Tablespoonful every hour.
2. Ammon. Carbon. 45 grn. (3 gme.)
 Sig. Ammon. Anis. . . 80 drops. (5.6 c.c.)
 Vin. Antimon. $2\frac{1}{4}$ dr. (10 c.c.)
 Syr. Simpl. 6 dr. (24 c.c.)
 Inf. Ipecac (e. 12 grn.) . 5 oz. (150 c.c.)
 S. Tablespoonful every two hours.

Creosotal

Dr. Paul Jacob, Physician-in-Chief of Prof. Leyden's first Medical Clinic of the Royal Charité Hospital of Berlin, read a paper on this subject before the Gesellschaft der Charité Aerzte, which appeared in the *Berl. klin. Woch.* (No. 49, 1897). He had treated fifty cases, of which twenty-eight remained under observation long enough to

be of value. Eleven gave good results, sixteen fair, and only one showed no sign of gain.

The general condition improved visibly in twenty-five of the cases. Case No. 5 said, after taking 60 gme. (2 oz.) of creosotal, that she had not felt so well in fourteen years; the fever, night-sweats, and feelings of weakness entirely disappeared after six weeks of treatment. In only three of the cases did the subjective condition remain bad.

In not a single case did the creosotal have any permanently injurious effect upon the appetite. In five of the cases creosote, given by others, had caused complete anorexia; under creosotal the appetite increased from week to week. In seventeen other cases there was the same result; and the six cases that had a good appetite when the treatment was begun, preserved it undiminished during the administration of the remedy.

The body-weight was in most cases correspondingly increased. In sixteen cases the gains were up to twelve pounds; in three cases there was neither loss nor gain; and in five other cases there was a loss of from one to two pounds.

Creosotal had a very favorable effect upon the night-sweats and upon the fevers. The former always disappeared in a short time, and the latter were recalcitrant in only one case.

Cough and expectoration disappeared entirely in four cases, and in four others there was no change at all. In all the remaining cases there was marked improvement in these symptoms.

With regard to the administration of creosotal in children the author's experience is limited to two cases. In these two, however, it was very effective. He began with a dose of 1 drop three times daily, maintained for six days, and then gradually increased to 10 drops thrice daily.

The phthisical diarrhea was favorably affected by creosotal. No new attacks of diarrhea occurred during its administration in tubercular patients. Jacobs' observations agree with the most recent reports upon that phase of the drug's action, more especially with that of Eschle made from the laboratory of the late Professor Baumann. Eschle found that in other intestinal affections, and more especially in those occurring during the course of typhoid fever, creosotal was to be warmly recommended as an intestinal disinfectant which traverses the entire canal, and is capable of thoroughly cleansing it.

The influence of the remedy upon the physical signs does not at first sight seem to

have been a very marked one; yet in most cases in which the treatment extended over a period of six months or more, more or less improvement was noted. In two cases, Nos. 4 and 9, the physical signs of phthisis disappeared entirely. In six cases there was a marked, and in six others a moderate retrogression in the local processes. In eight cases the physical signs remained stationary; and in the five last cases they became worse during the time of treatment. The author proposes to make further investigations on the patients that have remained under observation to determine whether the creosotal exercises any specific influence upon the tubercle bacilli, or whether it stops the local inflammatory processes.

Iodoform in the Bronchopneumonia of Measles

The bronchopneumonia of measles is frequently a source of great concern on account of the serious complications to which it may give rise. An excellent means of treating it, however, is claimed by Dr. A. Gambardella (*Sem. méd.*, XVIII, p. 55), who has used a mixture made as follows with great success:

Iodoform 25 ctg. (4 grn.)
Cod-liver Oil..... 50 gme. (1½ fl. oz.)
Oil Anise..... 1 gme. (15 min.)

Dose: Two teaspoonfuls daily to begin with, and increasing the dose progressively up to the point of intolerance.

The author also prescribes inhalations of iodoformized oil of turpentine, and states that the medication employed rapidly dissipates the pulmonary symptoms and fever, even when used at an advanced stage of the illness.

F.

Ichthyol in Pulmonary Tuberculosis

Dr. Brantonne writes (*La France méd.*, Nov. 12, 1897) that he had very favorable results from the administration of ichthyol in pulmonary tuberculosis. He gives it in solution as follows:

Ichthyol (ammonium sulph-ichthyolate)..... 2 dr.
Alcohol (65 per cent.) 6 dr.

S. Thirty drops in a glass of water three or four times a day.

The dose is gradually increased by two drops a day until 150 drops are taken, or he orders it in pill-form [In this case we presume the sodium sulph-ichthyolate is ordered] increasing the dose gradually until the patient takes 3 gme. (45 grn.) of ichthyol a day. The author considers the action similar to that of creosote, but without the disadvantages of the latter. It is less irritating to the stomach than creosote

is, diminishes expectoration, causes an increase in the weight, improves the general condition of the patient, and restores menstruation in tubercular anemic women. The author quotes a number of German and French authorities who have employed it with equally favorable results. [We have employed ichthyol in three cases of pulmonary consumption, first and second stage, and the results were so excellent that we are now using it in preference to creosote or guaiacol.]

R.

The Antiseptic Properties of Quino-chloral

In the *Pharm. Zeit.*, Vol. 42, p. 752, K. Meyer describes a new compound of quinine and chloral with marked antiseptic properties. It is a bitter, thick, oily liquid, neutral in reaction, soluble in all proportions of water or alcohol.

This preparation is free from the irritant properties of either quinine or chloral, and also lacks the cardiac depressant action of the latter.

It is reported to be very active, killing micro-organisms in less time than corrosive sublimate. It is especially valuable as an intestinal antiseptic and hypnotic, and is indicated in alcoholic cases more particularly.

J.

Mercury Oxycyanide in Surgery

For three years Dr. H. Verneuil, of Brussels, has made use of a solution of mercury oxycyanide as a wash for wounds and for disinfecting surgical instruments (*Sem. méd.*, XVII, p. 234). The oxycyanide is claimed to possess the advantage of not attacking steel instruments, although it does affect aluminum ones. The formula for the solution recommended is as follows:

Mercury Oxycyanide... 1 gme. (15 grn.)
Distilled Water..... 1000 c.c. (1 qt.)
Picric Acid, sufficient to color.

This solution may be employed in the same manner as a 1:1000 corrosive-sublimate solution. Care must be taken to use oxycyanide, and not the cyanide, because the latter is unstable, and frequently contains cyanate, which has a more destructive action on metals than even corrosive sublimate has.

F.

The Value of Potassium Permanganate as an Antidote for Morphine

At the laboratory of Experimental Therapeutics of the Jefferson Medical College, Drs. Thornton and Holder made some experiments on dogs to determine the efficiency of KMnO_4 as a morphine antidote when injected hypodermically (*Therap. Gaz.*, p. 117, Jan. 15, 1898). Six dogs were given toxic doses of morphine, subcutaneously, all

dying in from two to three hours. Then five dogs were given toxic doses in the same manner, followed by hypodermic injections of potassiumpermanganate in from five minutes to an hour, and still all the animals died as promptly as if no permanganate had been given. Next, a dog was given less than a toxic dose of morphine, and the antidote administered (both hypodermically). The effects of the morphine were exactly the same as if no permanganate had been given. Finally a dog in which no morphine had been administered was given 20 grm. (5 dr., dissolved in 10 oz. of water) of potassium permanganate, subcutaneously, and the only effect noted was that the injection gave rise to very severe strain, which passed off in about thirty minutes. While not at all disputing the power of the permanganate to oxidize the opium alkaloids, when in direct contact with them (i. e., when both are given by the stomach), the authors express very serious doubts as to its efficiency as an antidote, when given hypodermically (or when the morphine has already been absorbed from the stomach into the system). R.

Medication in Infantile Intestinal Catarrh

Although careful dietetic treatment is all that is needed to produce a cure in many instances of intestinal and gastric derangements of infants, still medication is not to be entirely dispensed with. As being especially reliable, A. Hock (*Weiner med. Blätter*, No. 30) selects the following from the long list of drugs applicable in such cases: Hydrochloric acid, resorcin, the bismuth salts, and tannin-holding agents. Of the latter class tannigen was tested in a series of fifteen cases of intestinal catarrh of nursing infants. It is of especial value because it passes unchanged through mouth and stomach, setting free its tannin only in contact with the alkaline contents of the intestine. Doses of 0.1 grm. for babies under 5 months, and of 0.2 grm. for older ones, given four to six times a day, usually accomplish the desired result in a few days (three on the average). J.

Mercury Biniodide in Whooping Cough

Dr. Arthur H. Bigg (*Phys. and Surg.*, XIX, p. 376) states that he has found mercury biniodide to be uniformly efficacious in whooping-cough, not always curing, but reducing this distressing ailment to a comparatively mild and harmless affection. He first employed the remedy on a child of 4 years, directing a powder of a saccharine trituration containing 1-200 grm. of the biniodide, to be placed on the tongue every two hours. A marked reduction in the se-

verity and frequency of the paroxysms was soon observed. This treatment was kept up for five days, and then followed by the administration of 30 min. doses of fluid extract of *castanea vesca*, mixed with an equal quantity of syrup of tolu, every three to six hours. A good recovery, without complications, followed in a shorter time than was anticipated.

The writer believes that the mercury biniodide, when exhibited dry on the tongue, gradually disperses over the mucous membrane of the fauces, and by convection, no doubt, reaches the glottis and larynx. Upon these surfaces it exerts a counterirritant effect, relieving the congested condition of the capillary meshes, and exerting a chemical and solvent influence upon the tough and tenacious mucus, literally making it let go its hold, and thus facilitating its expulsion from the air-passages, this being the primary and local effect of the drug. The specific action of the drug is directed toward the enlarged glands of the neck which are in relation with the recurrent laryngeal and other branches of the vagus supplying the air-passages. The result is that the turgescence of the glands is relieved, thus removing a prominent source of irritation to the nerves which have to do with the act of coughing. F.

Captol as a Remedy for Seborrhea of the Scalp

Eichhoff again calls attention in the *Deut. med. Woch.*, 1897, No. 10, pp. 78-79, to the fact that captol is a very efficacious remedy for diseases of the scalp partaking of the character of chronic seborrhea with or without furunculosis, and for the falling out of the hair when due to such affections, he recommends the following solutions:

Captol.....	} aa 1.0 gme. (15 grn.)
Chloral Hydrate..	
Tartaric Acid. ...	
Castor-oil.....	} 0.5 gme. (7½ minims)
Alcohol (65 %)	
Ethereal Essence for Aroma—	q. s.

Rub in thoroughly after washing the scalp.

In this combination the captol is the main antiseborrheic, the chloral strengthens the hair, and the tartaric acid is to hinder the formation of iron compounds with the captol. J.

Thyroid Extract in Bright's Disease

Three cases of chronic nephritis were experimented with by G. Dieballa and G. von Illyés (*Archiv für exp. Path. u. Pharm.*, Vol. 39, p. 273) with a view to determining the effect of thyroid extract. The individuals were brought as nearly as possible into a condition of N equilibrium and thyroid ex-

tract administered in larger amounts than is therapeutically required. Diuresis and increased N elimination resulted, while the daily amount of albumen in the urine grew less.

These conditions prevailed for a space of four to five days after the dosage had been discontinued, at the end of which time the original symptoms quickly reappeared. The authors explain the decrease in the amount of albumen thrown off by assuming that the increased urea-formation took place at the expense of the circulating albumen of the blood. J.

Thyroid Extract and Iodothyryn

As the result of experiment with hypophysis, thyroid, and iodothyryn tablets, Arthur Schiff (*Wiener klin. Woch.*, 1897, No. 12) comes to the following conclusions: The administration of hypophysis increases the amount of P_2O_5 eliminated without appreciably affecting the N given off. Thyroid extract also increases P_2O_5 elimination, though not to so marked a degree. The practical value of the experiments lies in the apparent demonstration of the fact that iodothyryn is not to be considered equivalent to thyroid extract. In a case where 5 grn. of iodothyryn were given without affecting general metabolism, and 6 grn. of iodothyryn = 6 grn. of gland-extract evoked only a slight reaction, 4 thyroid tablets = 1.2 of gland acted in a very energetic manner. A second trial gave still more striking results. An uncertainty in the degree of efficiency of iodothyryn was also observed. J.

Supplied Blood in Gynecology

Dr. E. H. Pratt, of Chicago (*St. Louis Med. Era*, Jan., 1898), has practiced local feeding in the vagina in those delicate cases where hysterectomy had been determined upon and the appearance of gangrene was feared as a consequence.

The following is a case in point: A lady, 73 years old, suffering from tic douloureux so severely that living was becoming intolerable, was brought to him for treatment. Upon making an examination of the pelvic organs he noticed that the vagina was so pale and anemic, and the circulation so poor, that the mere process of examination produced a mottled appearance of the atrophied cervix and the vault of the vagina. She was under an anesthetic at the time of the examination, so instead of operating upon her he simply dilated the uterus, which presented the appearance of having been lacerated at one of the confinements she had sustained in the earlier part of her life, dilated and trimmed

the rectum, and then placed her in bed. He kept the vagina filled with bovine night and day, injecting two or three teaspoonfuls with a small syringe and plugging the vulva with cotton so as to prevent the food from escaping. At the end of a month the vagina could be douched and manipulated without inducing purpuric spots. She was again anesthetized and the uterus, ovaries, and tubes removed. The wound healed without the slightest trace of suppuration or the exhibition of any approaching gangrene. She made a rapid convalescence, the tic douloureux was immediately relieved, and in two weeks' time she was able to sit up, and in a months' time was discharged a perfectly well woman. Nearly two years have gone by since then, her tic douloureux has not returned, and she has gained thirty pounds of flesh. The author is satisfied that but for the aid of the local feeding he would scarcely have been able to carry this case to a successful issue.

Guaiacetin in Tuberculosis

Guaiacetin has been administered in twenty-two cases of tuberculosis by Dr. Josef Dakura (*Wien. klin. Rundsch.*, XI, p. 837), and the results obtained are summed up in the following conclusions:

Guaiacetin may be given for months and in large doses (1 gme., 15 grn.) without any apparent harm to the human economy. It is equal in therapeutic value to guaiacol, creosote, creosotal, etc., while not disturbing the digestive processes as the latter do. Guaiacetin is not, strictly speaking, a cure for tuberculosis, and should not, hence, be regarded as a specific in this disease. It does, however, properly occupy a prominent place among antitubercular remedies that act symptomatically.

The remedy exerts a very beneficial effect on the general condition of phthisical subjects, stimulating the appetite, increasing the body-weight, rapidly improving the quality of the blood, reducing the percentage of albumen in the urine, etc. F.

Peronin as a Sedative

Dr. M. Ebersson, or Tarnow, reports (*Therap. Monatsh.*, Nov., 1897) having used peronin in sixteen cases, comprising five of acute bronchial catarrh, three of chronic bronchial catarrh, five of pulmonary tuberculosis, and three of whooping-cough. The adult dose given was from 0.01 to 0.02 gme. (1-6 to 1-3 grn.) three or four times daily, and that for children was as many milligrammes (1-60 grn.) as the child was of age. The remedy was given in syrupy solution or tablet form, to avoid the bitter

taste and sensation of heat in the larynx induced by it. The appetite, circulatory apparatus, and general condition always remained good, or were even improved by the refreshing sleep induced. No copious perspiration was ever observed, but expectoration appeared to be checked. In whooping-cough the peronin acted with excellent effect; in fact, it showed itself as being almost irreplaceable. In this affection, the medicament was given with decoction and syrup of althea. The results generally obtained lead the author to the following conclusions:

1. Peronin is a very serviceable cough-reducing remedy, fully replacing morphine.

2. Acute bronchitis is in a short time cured.

3. Peronin rapidly and surely improves the condition in chronic bronchitis and in pulmonary tuberculosis, moderates the irritation-producing cough, induces quiet sleep, and renders expectoration easier.

4. It in nowise exerts any harmful influence on the heart or digestive apparatus, and is well borne for long periods by these organs.

5. No symptoms of intoxication are ever observed, even after long periods of medication with peronin.

6. The remedy exerts a remarkably beneficial effect in hysterical cough and in pertussis.

Taken altogether, the results point to a deservedly extended use of the remedy. F.

Tannalbin Considered Physiologically and Therapeutically

Dr. W. H. Porter (*Post. Grad.*, Nov. 1897) discusses the physiological and therapeutic action of tannalbin. His observations are interesting, and a few bear upon facts that have heretofore escaped attention, or have not been considered. For instance, he states that it is now generally accepted that the intestinal fluids are not alkaline, as claimed by many, but positively acid, and that hence the action of the tannalbin is not due to any decomposition suffered by it whereby the tannin is liberated by alkaline fluids, but that this liberation is the result of the constant exposure of the remedy to the moisture of the alimentary canal, together with the various chemical mutations that are always going on in conjunction with the digestive processes.

The author further states that the tannic acid liberated, at once regains its astringent properties, but appears never to be liberated in sufficient quantity to cause irritation, but to arrest undue secretion from the mucous membranes. At the same time, it precipi-

tates the mucus, thus in a large measure destroying the power which this mucus is known to possess for supporting the growth of various micro-organisms that constantly infest the tract. In this manner putrefactive fermentation of the mucus is arrested, and the toxic products otherwise resulting, which, when absorbed, give rise to endless trouble, are not produced. Tannalbin can, therefore, yield results similar to those obtained with many so-called intestinal antiseptics, such as salol, salicylic acid, phenacetin, resorcin, triphenin, naphthalin, etc., though the action is widely different—the antiseptics working to destroy the germs, the tannalbin tending to render the mucus (which is largely the culture-medium that supports that growth) unsuitable for their support.

So far as the therapeutic action of tannalbin is concerned, the author states that clinical experience tends to demonstrate in the most positive manner that good results can be obtained from the use of tannalbin in gastric affections. He finds that in acute and chronic catarrhal conditions of the stomach, its free administration will often arrest the superabundant outpouring of mucus. It is in the intestinal canal, however, that tannalbin is more energetically acted on and decomposed, and where its effects are more specially obtained and observed. In the acute diarrheal affections of children, and particularly in those cases in which there is a large outpouring of mucus, tannalbin has been found very efficient by those who have used it extensively; and none the less valuable is it in acute cases in the adult. It is in the chronic affections, however, that the author has found tannalbin to be most serviceable, and specially so where there is hypersecretion of the mucus with constant fermentation. F.

Tannoform Therapeutically

Dr. A. Hoff, of the Vienna Polyclinic, reports that he has used tannoform in fourteen cases of venereal ulcer, and the results obtained were astonishing. In multiple ulcer, the diseased parts were healed under the use of the remedy, whereas in the same length of time, ulcers treated with other antiseptics first began to clear. Excellent results were also had in a case of decubitus and one of extended eczema. The writer applied the remedy, besides, in bromidrosis and hyperidrosis (ten cases), ulcera cruris, and atheroma (eighteen cases), and in every case with complete success. Nor was the remedy any the less effective in fifteen cases of ingrown nail and in two cases of epithelioma (one of the nose, and one under the right eye). In a case of recent, superficial,

but very extensive burns, a 10-per-cent. tannoform ointment was applied with the happiest results. Buboes were treated with tannoform once daily, or every three days, after previous incision and washing with 1-per-cent. solution of silver nitrate. A complete cure resulted as a rule in two weeks.

F.

Favorable Effects of Antidiphtheritic Serum in Pulmonary Tuberculosis and in Cancer

According to observations made by Dr. H. McCallum (*Sem. méd.*, XVII, p. 230), antidiphtheritic serum at times advantageously modifies the local and general symptoms of tuberculosis and of cancer. Under the influence of injections of the remedy, repeated at variable intervals, the local symptoms of the pulmonary trouble were found to improve, the rebellious hemoptysis to be checked, the hoarseness to diminish, and the general condition to improve. On the other hand, in cancer, a diminution of the volume of the neoplastic masses and of the concomitant adenitis was effected.

F.

Thyroid Extract in Intestinal Catarrh

J. Czernetschka (*Prager med. Woch.*, XXII, No. 24-27) and O. Wyss (*Correspondenzblatt f. Schweizer Aerzte*, 1897, No. 15) report their experience with thyroid extract in the children's clinics of Prague and Zurich, respectively. It was given with most prompt and satisfactory results in both acute and chronic intestinal catarrh; for children less than three months old 0.2 grn. to 0.3 grn., for older ones 0.5 grn., three or four times a day, or oftener, proved most efficacious.

The Treatment of "Black Eye"

Dr. May discusses this in the *Med. Rec.* (Vol. LI, No. 15). When the patient is seen early, before discoloration has set in, cold compresses or evaporating lotions are indicated; this will reduce the swelling and limit the subsequent discoloration. But if the patient is seen after he has a fully developed "black eye," hot compresses and massage are required. The affected portion is smeared over with vaselin and is rubbed for ten minutes several times a day. By frequent massage and continuous hot applications the discoloration may be almost entirely removed within twenty-four hours.

The professional "black-eye" artists use for several hours a poultice of the scrapings of a root, the nature of which they keep secret, but which the author thinks is bryony-root, and he has used the latter with good effects.

R.

REVIEWS

Sulla opportunità ed efficacia della Cura Chirurgico-Ginecologica nella Neurosi isterica. (E. nelle alienazioni mentali.)
Risulta di una inchiesta internazionale.
Dottori G. Angelucci e A. Pieraccini, 1897.

As the result of an international inquiry in the relationship of gynecology to nervous and mental diseases and the hopes for operative cure in cases where such a relationship is stated to be established, the authors present a careful and extended study. In all, they received from alienists, neurologists, and gynecologists some 117 replies in full for all the questions put. As a result of their analysis of these 117 cases, they eliminate at first six cases in which the clinical and other history would indicate that the results obtained were by means of suggestion; in the remaining 111 cases it could be shown that in 17 only was there any improvement, the remaining 94 being left in practically the same condition as before. Further it was to be noted that in the 17 cases, 12 would be included under the general head of hysterical disturbance, in 9 of which diseased sexual organs were found and in 3 only were the organs sound. The remaining cases which resulted favorably, in which the surgical gynecological operations could be said to be responsible were but five; in these, two might be said to have been improved, while three were apparently cured.

This scarcity and uncertainty of favorable results incline the author to believe that in the many reported favorable cases of nervous disturbances cured by means of operations on the pelvic organs, another factor is responsible. This, he believes, is suggestion, its operation simply serving to make the suggestion more permanent.

A brief series of conclusions close this interesting brochure. These are:—

1. The extirpation of the normal uterus or its adnexa as a means of cure for hysterical neuroses or insanity is distinctly contra-indicated.
2. This same condition "hysteria" even constitutes a contra-indication to surgical operations which aim to cure gynecological ailments.
3. Unless there is grave disease of the sexual organs there is no indication for their removal, and any operation for their removal should be considered apart from its remote effect upon the neuropathic state.
4. In certain cases in which there are grave pathological changes in the pelvic organs, the operative suggestion-effects may legitimately be exercised when there are co-existing neuropathic conditions.
5. In short, in conditions of hysteria or allied disorders in which reputable methods of suggestion have proven ineffectual, one may be justified in resorting to a simulated laparotomy.

A Clinical Text-Book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine. By J. W. Macdonald, M. D. W. B. Saunders, Philadelphia, 1898. \$5.00.

Notwithstanding all that the advances in pathology, bacteriology, and allied subjects are doing to lighten his labors, the questions that confront the surgeon in every case brought under his care are still—1, What is the disease or injury? and 2, What is the proper line of treatment? It

is the aim of the author of this present work to put into the hands of the student and practitioner an aid to the solution of these problems and to present in a single volume the most practical part of practical surgery. A feature that will commend itself to the young practitioner is the comprehensive way in which the diagnosis of each affection is treated, where possible systematic directions for the examination being laid down, while the differential diagnostic tables will prove of great assistance. The entire field of operative surgery, with the exception of the special regions of the eye, ear and skin, is covered, the chapters on the osseous system and injuries, and diseases of joints being especially practical and thorough. A section of skiagraphy is added and embodies the latest advances in this branch of surgical practice. The presswork is good, the many illustrations, most of them new and many from photographs, add distinctly to the value of this very excellent volume.

A Text-Book on Surgery, General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in and President of the Faculty of the New York Polyclinic Medical School and Hospital, etc. Third edition, revised and enlarged. New York: D. Appleton and Company, 1898.

This work has been so long and so favorably known to the profession throughout the United States that commendation is almost superfluous and would be entirely so but for the many important and valuable new features that have been added to this edition. Those accustomed to the contents of the first and second editions will think they have a wholly new work when they open it and find the new chapters on surgical pathology at the very beginning. This feature is a most decided improvement so far, at least, as students are concerned, and even to the average run of the profession who use the work it will prove of great advantage in recalling first principles. The author's method of handling the subject and his definitions are fully abreast of the latest teachings of our best pathologists. The chapters on surgical dressings, sterilization, asepsis, antiseptics, and anesthesia are excellent. The many surgical and anatomical illustrations that adorn and elucidate the text are all that could be desired in accuracy and effectiveness, but those representing ordinary surgical instruments, such as every practitioner can find in the catalogues of manufacturers, are a waste of valuable space much to be regretted. They certainly will detract from the pleasure of those who read and consult the volume. The typography, paper, binding, and general mechanical part of the work upon the volume is done with the usual care and perfection of its well-known publishers.

Therapeutics of Infancy and Childhood.—By A. Jacobi, M. D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, etc. Second Edition. Philadelphia: J. B. Lippincott Company, 1898. \$3.00.

It is evident that this useful book has won its way rapidly into the affections of the profession since a new edition has been required so soon. In the preface the author declares that he began his work of revising as soon as the first edition left the press. He evidently had faith in the work himself, and this is usually the case with those who produce good books. Its personal character has been criticised by some, but this kind of criticism he wisely observes he wishes to deserve. A

number of the chapters have been entirely rewritten, and, as is said in the preface, "there is hardly one that has not been somewhat enlarged or otherwise changed." It is one of the handiest, most concise, and useful volumes on pediatrics now in print. We do not think its title is quite appropriate for its contents. Instead of being a work on therapeutics, it is really one that covers all that is generally understood as practice. It is therefore likely to be unnoticed by many who really need such a work. It should be found in the library of every general practitioner. The following titles of chapters will give a fair idea of its general contents: Feeding of Sick Children, General Therapeutics, Treatment of the Newly Born, Diseases of the Blood and Constitution, Infectious Diseases, Diseases of the Nervous System, Diseases of the Digestive Organs, Diseases of the Genito-Urinary Organs, Diseases of the Respiratory Organs, Organs of Circulation, Diseases of the Skin, Diseases of the Muscles, Diseases of the Bones and Joints, Diseases of the Ear and Diseases of the Eye.

Atlas of Methods of Clinical Investigation; with an Epitome of Clinical Diagnosis and of Special Pathology and Treatment of Internal Diseases. By Dr. Christfield Jacob, formerly First Assistant in the Medical Clinic at Erlangen. Authorized Translation from the German. Edited by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. With 182 colored illustrations upon 68 plates, and 64 illustrations in the text. Philadelphia: W. B. Saunders, 925 Walnut Street, 1898. Price \$3.00 net.

This is the first of the promised series of Saunderson's Medical Hand-Atlases, and if a fair representation of those that are to follow there can be no doubt of their becoming very popular. A careful examination of the contents of this volume satisfies us that it, at least, justifies the claims of the publishers when they said that "for scientific accuracy, pictorial beauty, compactness and cheapness, these books surpass any similar volumes ever published." This reviewer knows of no work of the same price so handsomely illustrated and with so much valuable information presented in so terse and clear a manner. Hitherto all volumes filled as this is with colored illustrations have been too expensive for the average medical man to feel as if he could afford such a luxury. Now that they are available at the average price of ordinary medical works, they will become a necessity. Next to the advantages of access to the clinical material of a large city hospital will come books like this. The doctor, by their aid, will not have to spend a long time studying out what the authors are driving at as he strives to master the intricate description of the dry text. Everything is seen at a single glance and in colors that in some of them almost duplicate those of nature. Books of this character have only to be seen to be appreciated.

The Legislature of Maryland has passed a law requiring physicians to notify their local health-officers of all infectious diseases of which the latter must keep a record and look after disinfecting.

The Battle Creek Sanitarium has leased the large and commodious hotel on Staten Island, the Prohibition Park House, and will conduct it as a sanitarium for New York people. A corps of physicians, trained nurses, cooks, and other assistants, will be sent at once to conduct the sanitarium after the methods of the parent institution.

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EDITOR'S NOTES

The osteopaths have won their fight in Iowa. Governor Shaw has signed the bill giving them the right to practice in that State. This is said to be the tenth defeat to scientific medicine in the United States which this so-called school has accomplished. Vermont, North Dakota, South Dakota, Missouri, Illinois, Michigan, Colorado, North Carolina, and Kentucky osteopaths claim as theirs by right of conquest, and they are pushing ahead with vigor trying to get every other State in the Union to destroy existing medical laws. They put forward the claim that they are seeking the same rights and privileges as the regulars, and as it does not seem to occur to any one to disprove this claim its apparent plausibility and justice wins the heart of legislators, even where no more substantial reason is forthcoming. Why cannot this lie of theirs be punctured? They are not seeking the same rights and privileges as the regulars, but very much more. They seek to evade the examinations and other educational tests of fitness that regulars, homeopaths, and eclectics are forced to undergo. If we could only give legislators to understand that we do not fight osteopathy as a cure for those who wish it. Our fight is solely to compel osteopaths to know enough of science to cease being ignorantly dangerous to their dupes. Have legisla-

tors understand that we want no favors and we expect even and exact justice. If osteopaths are to be favored by exemption, then why not favor all? Let the ignorant quack, whom all know to be a fraud, have the same chances to kill as these pretenders, or else put all on a footing of safety. Let gamblers, blacklegs, monte men, and cheats of every kind have free swing or stop all of the ilk. It is a fatal error to fight osteopathy because it is osteopathy. Fight it because it seeks favors that honest practitioners do not ask for.

Under the title of "An Unsuccessful Attempt," our esteemed contemporary, the *Dietetic and Hygienic Gazette* reproduces our editorial on "Herbert Spencer's Definition of Life," prefacing it with a short paragraph of attempted refutation. We thank the editor of the *Gazette* for saying that our editorial "makes very good reading," but we are sorry to say that we think he has misapprehended the particular point of difference between our proposed definition and that of Mr. Spencer. Perhaps we can make it a little clearer to him by stating that whereas Mr. Spencer's definition is the definition of an action, ours is the definition of an existence. In accepting life as being, and not merely action, we stand with an overwhelming majority of the race, and these not alone the masses, but the scientific men of the world as well. Of course, if life has no more real existence than writing, reading, walking, talking, running, eating, working, or other action, then we are wrong and the editor of the *Gazette* is right. The experiment with seed that had been kept at extremely low temperatures where action had ceased, was the crucial test of Mr. Spencer's definition, and by this test it fell. If life can be defined as a mere abstraction, then life should cease at such a temperature. The fact that it did not cease was a convincing evidence against such an assumption. Make life a real entity, and while all that Mr. Spencer says of it is true, it also passes unscathed the new test with flying colors. To call life adjustment is to deny to it any existence except as an abstraction. To call life a power is to make of it an actuality, even though it may in some way be an incomprehensible one. To place it as a power behind the adjustment, to make it in fact the adjustor, is to maintain its existence in the absence of all known forms of adjustments. Adjustment ceases when motion ceases, and yet we have the fact of seeds surviving the end point of all adjustment and returning to their adjustments again. The editor asks us where the difference is "between saying Jones did it, or that

Jones is the man who did it?" There would be none. But no such analogy obtains in our contention. It is a case of definition and not a case of who did it. Mr. Spencer denies in his definition the existence of any Jones. He defines the word Jones with a definition that belongs to the word did. We claim that the doing was done by Jones, while Mr. Spencer refuses to acknowledge that there is any Jones behind the did.

PUBLISHERS' DEPARTMENT

WISCONSIN FARM LANDS

There is a rush now to the choice unoccupied farm lands along the line of the Chicago, Milwaukee & St. Paul Railway in Central Wisconsin.

Good quarter sections can now be had for \$7.00 and upwards per acre, one-third cash, balance on long time at current rate of interest.

For further particulars address W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago, Ill.

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co., and Leased, Operated, and Independent Lines.

The office of general passenger ticket agent of this company makes the following announcement:

"CHUTMUCK SPECIAL"

AMERICAN MEDICAL ASSOCIATION, DENVER, COL.,
JUNE, 1898.

For the meeting of the American Medical Association, to be held at Denver, Col., in June, 1898, we take pleasure in announcing that the Missouri Pacific Railway has arranged to run a special through train from St. Louis to Denver, to be known as the "Chutmuck Special," making the trip via Kansas City, Pueblo, and Colorado Springs.

This will be one of the handsomest trains ever run in the West, consisting of Compartment Sleeping Cars, Dining Car, Buffet Car, etc., affording special accommodations for the wives and families of yourself and friends. Please remember this in making your arrangements.

Due announcement as to dates, schedule, etc., will be made later on.

H. C. TOWNSEND,

General Passenger and Ticket Agent.

B. H. PAYNE,

Ass't Gen'l Passenger and Ticket Agent.

ARSENAURO AND MERCAURO

The Charles Roome Parmele Co., of New York, has published a neat pamphlet on these remedies. We quote from it as follows:

"The abundant testimony which has appeared in the leading medical journals of this country would seem to show conclusively that arsenauero and mercauro give better results than may be obtained by the administration of any one or all of their constituent ingredients when given alone or in mixture, and that many cases which could not be reached at all by either gold, arsenic, or mercury administered separately, are successfully treated with arsenauero and mercauro.

"Prof. Stucky, in his paper published in the *New York Medical Journal* of November 23, 1895 (which is reported on page 5 of this pamphlet)

discussed at considerable length the chemistry of arsenauero and mercauro with reference to the changed therapeutic properties of the metals entering into their composition. Arsenauero and mercauro are definite chemical products; arsenauero being a double bromide of gold and arsenic; mercauro, a double bromide of gold and arsenic with the addition of mercuric bromide. They are aqueous solutions and absolutely permanent under ordinary conditions. They are completely and readily assimilable and therefore may be administered indefinitely without stomachic or intestinal disturbances.

"In illustration of the ethical manner in which our business is conducted, we beg to say that each bottle of our solution bears a definite statement regarding its exact contents. Dosage is entirely eliminated and the 'Caution' is made 'should be used upon physician's prescription only.' Our line of work is entirely through the medical profession. We totally discourage self-prescribing, and in response to the thousands and thousands of communications received by us from the laity asking for literature, etc., we send a stereotyped response, referring the patient to a physician.

"The best results are obtained by pushing arsenauero and mercauro to the point of toleration. This may be done without fear of stomachic disturbance. The maximum dose varies widely in individual cases. When reaching the point of toleration the dose should be reduced or else stopped for twenty-four hours, then resumed with dose slightly less than the one administered when toleration point was reached. It is best to administer the solutions in at least 4 to 6 ounces of water (three times daily, after meals), to begin with a small dose (say 6 or 7 drops) and gradually increase. Though the nature of these remedies and the class of cases in which they are indicated preclude the expectation of immediate results, their persistent use seldom fails to justify their administration. The increase in number of red blood-corpuscles shows the tonic effect upon the assimilative apparatus."

The greater part of the pamphlet is composed entirely of reports which have appeared in medical journals, giving the names of the journals, of the authors, and the dates when the articles appeared.

The Philadelphia Hospital is said to be the oldest in the country. It has existed for 167 years.

The Saginaw (Mich.) County Medical Society lately expelled a member because he was guilty of plagiarism. The vote against him was unanimous.

At a late meeting of the St. Louis Medical Society, Dr. I. N. Love introduced a resolution asking for the establishment of a police district medical corps, to be paid for by the city and whose duty should be to at once look after emergency cases and accompany the patrol wagon on every trip, so as to see that true cases of sickness should not be diagnosed drunkenness and treated accordingly.

The *Detroit Tribune* says that Secretary Baker has issued an announcement of the forthcoming quarter-centennial celebration of the State Board of Health. It will be held in connection with the annual meeting of the conference of State and provincial boards of health of North America, to be held in Detroit August 9, 10 and 11. The celebration feature will include a discussion of the ideal work of the ideal State Board of Health. It will also include a thorough discussion by distinguished sanitarians. Consumption will also be discussed.

NEWS

The County Medical Society of New London, Conn., lately held its 107th annual meeting.

The Louisville (Ky.) *Post* says that George Arnold, of Lancaster, Ky., has invented a sewing machine for the use of surgeons to sew up wounds.

The *Boston Traveller* has made of itself an organ of the anti-vivisectionists. It is now trying to anger the public against Harvard by claiming that pet dogs are being stolen for vivisection by that institution.

Rush Medical College of Chicago has paid off its indebtedness of \$71,000 and is expected soon to become united with the University of Chicago. Most of the debt is said to have been raised from the faculty.

During the last week in March and the first week in April there seemed to be an epidemic of what appeared to be ptomaine-poisoning in Greater New York. There were six deaths reported and a large number of cases of a mild type.

The Humane Society of Colorado is watching the medical students of Denver to see that they do not use the stray dogs which the city is selling to them for vivisection purposes unless they use anesthetics. The students claim that they are buying them to dissect and not to vivisection.

The Bridgeport (Conn.) Medical Society has begun a vigorous war against contract work by physicians. No doctor who engages to do society work at a definite sum per member for a given time can retain membership in the society, and no member of the society will be permitted to consult with any lodge doctor.

The newspapers of Massachusetts are again attacking the doctors of that State. This time it is because they want a law passed permitting medical colleges to use the unclaimed pauper dead for dissecting material. The *Ware News* says that "such a bill is a menace to liberty and would be a disgrace to the statutes of the State."

The San Diego (Cal.) Medical Society has just turned over a new leaf and elected the women members to fill the offices instead of men. Dr. Magee, who had been secretary for ten years, stepped out and made room for Mrs. Dr. Nelson. During the present year they will have a lady president, a lady vice-president and a lady secretary.

The Tri-state Medical Society of Iowa, Wisconsin, and Illinois held its sixth annual meeting at Dubuque on April 5 and 6. Over thirty papers were presented. Dr. Brownson read one on "Injuries from Live Electric Light and Trolley Wires" that aroused much interest. The next meeting will be in Quincy, Ill. Dr. E. C. Ruth, of Keokuk, is the new president.

A Pennsylvania judge has decided that a doctor who is registered as a practitioner in one county of that State has a right to practice in any other county without re-registering. The decision was made on a test case brought against a Youngstown doctor who opened a second office in New Castle. The Lawrence County Medical Society had to pay the expenses of the trial.

Raleigh County, West Virginia, is having great excitement over the presence of witches. The people there believe in witchcraft as thoroughly as did those of New England in the days of Cot-

ton Mather. They call upon their witch-doctors to relieve them from troubles which they think the witches have brought upon them. The lives of several suspected old people have lately been endangered.

The *Cincinnati Times-Star* says that Dr. Philip Roberts, one of the oldest physicians in Richmond, Ky., has been notified by the secretary of the State Board of Health that unless he desists at once from misrepresenting the smallpox epidemic prevalent there he will be called upon to appear before the board and show cause why his license shall not be revoked. Dr. Roberts claims the disease to be elephant itch, not smallpox.

According to the *Utica Press* the Kansas State Board of Health lately sought an opinion from the Attorney-General regarding their powers in subduing quackery. They wished to know how the statute should be interpreted. The legal authority says that the magnetic healers and the hypnotists and all the other quacks except divine healers can be prosecuted, but adds that the divine healers claim their power to come from Jehovah, and that, as he understands it, the rights and privileges of Jehovah can in no way be regulated or restricted by the statutes of Kansas.

The Buffalo Board of Aldermen are about to place the pest-house on the same site as the public cemetery, but the Health Commissioner, Dr. Wende, has objected. He claims it is unsanitary. To a reporter of the *Express* he said: "It would be pleasant for a sick man with smallpox or yellow fever to gaze out of the window at a lot of graves and tombstones, wouldn't it? It would be quite likely to have a revivifying effect, eh? It wouldn't affect me if I was there sick, but it would affect a majority of the people. It seems to me that a pest-house and a cemetery would be a funny combination; something like a doctor going into the undertaking business."

The Wisconsin Board of Medical Examiners has refused to recognize the Milwaukee Medical College and School of Dentistry because it failed to comply with the State law by having all its students take three-year courses. Through one of the students who did take a three-years' course the faculty of the college has begun a suit to compel recognition. The Attorney-General has given an opinion favoring the college. He says "the mere fact that some person, by unusual attention to study or by adaptability to the work, is enabled to meet the requirements of the school in less time would not operate to take the college out of permission to have its certificates recognized by the board."

The Southern Quarantine Convention, that met in Atlanta on April 12, passed the following resolutions:

"Resolved, That this convention approves the plan of having medical inspectors attached to those consulates where yellow fever and cholera are epidemic, with a view of securing for our protection definite information as to the exact sanitary condition and the presence or absence of contagious diseases in such consular district. And that Congress be urged to make the necessary appropriation to carry the plan into effect.

"Resolved, That this convention is of the opinion that it is a duty devolving on all nations to take measures to eradicate any plague-centers from their territory, and that the existence of such plague-centers is a menace to all other nations, and that our State Department be requested to take measures through proper diplomatic channels for the conveyance of this opinion to the governments deemed obnoxious to the opinion as herein expressed."

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EDITORIAL

PULLED BREAD

IN a recent editorial we considered some of the effects of water upon the destinies of the Anglo-Saxon and other races inhabiting North America. Possibly even more cogent in producing flatulence, colic, and other abdominal torments, is American bread, or rather what might be called "flour-stuffs," ranging from the sodden pie of New England to the underdone hoe-cake of the South.

One of the most distinct personal reminiscences of the writer is a boarding-school, where the flour-essence of the American brain in cookery took the form of pie and milk suppers three times a week, and where pie, being dear to the heart of the school-boy, was not only gorged upon at these stated intervals, but "hooked" as largely as possible for eating between meals. The classic punishment, if caught, was that the victim had to eat on the spot all that he had stolen, and the echoes of half an hour devoted to the disposal of five huge pieces of pie after seven had already been taken, still reverberate through our abdominal memory.

The question whether corn-meal is as good an article of human food as is wheat is one of very great commercial importance to this country, but we opine that most of

our readers will agree that well-cooked corn-meal is better than ill-cooked wheat-flour; and how badly wheat-flour is cooked in America! Even in the best-regulated families in our large cities what a difference often appears between the upper and the under side of the loaf, which is in itself an evidence of bad cooking, since a good loaf of bread is the same throughout. There may be reason for hoping that in the centuries to come the American people may demand good bread, and forbid in their families the enormous daily waste which so often comes from improper cooking of wheat-products.

The growth of bakeries in our larger cities is a good sign, for after all it is perhaps too much to expect of the ordinary cook that she shall produce steadily, week in and week out, a uniform article of bread. The only country in which we have ever traveled extensively in which the bread is uniformly of excellent quality, is Austria; there in many weeks of wandering we have never seen a piece of bread that was not excellent, or that had not been cooked by a professional baker. In small mountain hamlets remote from towns the arrival of the baker-messenger with bread in panniers or cart, as the case may be, is almost the event of the day. We well remember at a certain curé's, in the Oetzthal, where the village consisted of a church, rectory and a barn, having to breakfast on coffee and pound-cake because the bread-man had not arrived, and we the

night before had eaten up all the reserve bread; pound-cake, not bread, being an article of domestic manufacture.

As everyone knows, bad bread is indigestible, partly from the products of fermentation or decomposition which have already been produced in it, and partly from the fact that during mastication it becomes sodden, heavy, and agglutinated into masses which the gastric juice cannot penetrate, and which are very prone to undergo a fermentation at war with the digestive processes. The increased digestibility which is produced by toasting bread is in part due to chemical changes and the breaking up of the starch-granules, but is also largely the outcome of physical changes in the bread, which cause it to crumble under the teeth into fragments which are so minute that they are readily dissolved in the digestive fluids; or into larger pieces which still preserve their open places, so that the fluids of the stomach and intestines easily get into their exterior.

The practical difficulty with the toasting process is that the outside piece of bread is liable to be charred, whilst the inside is often not toasted at all; hence the superiority of what is now known as "pulled bread," which is really toast that has been thoroughly and equally cooked throughout. Even in our larger cities pulled bread is often obtained with difficulty, at least away from the very center of the city; and we append a recipe, which was originally procured from Mrs. Rorer, but which has been tried successfully under our direction in a great many kitchens. It will be noticed that the directions call for the use of a peculiar pan, such pan should, however, always be used in bread-baking, as it yields a much better result in the ordinary kitchen oven than does the more common open pan.

BREAD AND PULLED BREAD.

Pour one pint of boiling water into one pint of fresh sweet milk; when *lukewarm* add a teaspoonful of salt, one-half ounce (one cake) of Fleisch-

mann's compressed yeast, dissolved in two table-spoonfuls of cold water. Stir in sufficient white flour to make a stiff dough. A slightly granulated *not a soft* flour is best for bread. Be sure to add the flour gradually, beating all the while. Two and a half quarts to three quarts of flour will be needed, according to flour. Turn this out on the board and knead for about fifteen or twenty minutes, until soft and elastic. Put this back in the bowl, cover and stand in a warm place, 75° Fahrenheit, for three hours. Then divide it carefully into loaves, roll these loaves out *carefully* under your hand, making each one about fourteen inches long and three inches in diameter. Place each loaf in a long French pan, cover and stand in a warm place for one hour, and bake in a *quick* oven thirty minutes. When done, turn them carefully on the baking board, and allow the moisture to evaporate and the bread to cool.

In three or four hours, or even the next day, with a sharp knife trim or whittle off the crust. These crusts give to the family to eat, as they form the best part of the bread. Begin at one end of this long loaf, and *pull* it all the way down into halves. Now again, separate each half into quarters, and again into eighths. If the bread has been carefully molded under the hands it will pull easily from end to end. Now take a large baking-pan and cover the bottom with manilla paper. Place this pulled bread on the paper, and then in a *moderate* oven, keeping the door closed; allow the bread to remain for thirty or forty minutes, until it is a golden brown, and *dry* to the very center. Take a bit in your hand and break it; if crisp in the center it is ready to take from the oven. Keep in a tin box. It will keep several weeks even, and may be run into the oven before each using.

UTILITARIANISM IN BACTERIOLOGY, PATHOLOGY, AND THERAPEUTICS

THE mercantile spirit of the age is making itself felt in every department of science with increasing intensity, and nowhere has it obtained more complete sway than in medicine. The impatient clamor of the unthinking multitude for practical results creates a nervous anxiety on the part of investigators to supply such results. Every new discovery meets the query of "cui bono?" and if not ready at once with a satisfactory answer it is flung aside with contempt. The intense desire to win fame or fortune at a single bound must soon bring us to a dead standstill unless the infection of worldly-mindedness is

soon replaced among savants by the higher principle of truth for truth's sake.

Only the narrow-minded now believe that great discoveries in any science are made by a direct hunt for them, prompted by our desire to make them. They all come to us through the patient plodding of a host of workers who receive little or nothing for their pains. The plowman and the sower must do their work long before there can be a harvest for the reaper. The unrequited toil of our Voltas, Aragoes, Franklins, and Faradays must precede the husbandry of civilization through our Morses, Bells, Edisons, and Thomsons. A million unremunerated workers had to plod along for years, adding up facts of no apparent commercial value before organic chemistry could hold up a single aniline color or synthetic remedy. Look where we may and the same fact stares us in the face.

Nature everywhere demands a display of absolute, unswerving faith in her integrity before bestowing a single favor upon man. We must first sow and then wait with unquestioning confidence for our reward. We cannot even hope to learn in advance what the reward will be. The man of science must toil on in his work of discovering what appear to be the most trivial and useless of facts, and when the ignorant and stupid are scoffing loudest, and asking what good there is in all that has been done, he, or some one else, adds the keystone to the arch that was being built, and all at once it is found to be of the utmost importance to the whole race.

A few months ago Crookes' tubes were looked upon as interesting toys. No one so much as dreamed that they would ever have any function to perform in surgery. Now they have given us the Röntgen rays. The village rustic and the ignorant savage are equally amused at what each deems mild lunacy on the part of botanists, zoo-

logists, and geologists, as they gather the facts of their respective sciences. In direct ratio with a man's ignorance of nature and its methods, so is his impatience with or amusement at the expense of the enthusiastic man of science. The spirit that demands useful results of an infant science is the enemy of science. All the wonders of modern civilization are only incidents in the growth of science, yet strange to say the majority of men look upon them as its inspiration. The true propelling power is found in the fact that there are men who love and harbor truth for its own sake. They are willing to follow it wherever it may happen to lead. "Not my will but thine be done," is their incessant orison.

Never yet has a so-called practical result come to a man of science before the way was prepared by the discovery of a multitude of apparently useless ones. To look for it prematurely is as disastrous as to cut grain for thrashing before it is ripe. No healthy progress in science is possible except by making a clean sweep of facts. Every fact must be acquired that is in the remotest degree connected with the subject being studied. Facts interlink with facts in such a manner that the absence of one is likely to vitiate any conclusion that may be drawn from the rest.

What is here true of science generally, is particularly true of bacteriology, pathology, and therapeutics. In no other departments of science is the strain so strong to seek premature results. The impetuous young graduate who wishes to climb the ladder of fame without delay, rushes his crudely acquired and badly digested facts before the world, and they are accepted with as much deference by many as if they represented the ripest results of the investigations of an expert. The man who wants an advertisement that will not conflict with the

requirements of the code of ethics puts forth claims of discoveries that are the most brazen kinds of shams. Between the colossal announcements of the charlatan and those of the misguided, ignorant enthusiast, true scientific results look meagre and insignificant. When the best workers are besieged by their friends to hurry up and give something practical, and when the mute appeals of a suffering multitude go home to their hearts asking them to hasten the day when such suffering shall cease, what wonder that even they are beguiled into trying to hasten work that the very act of hastening spoils.

The light of truth, like the light of the sun, can travel only in straight lines through a medium that is unruffled and unstrained. To diffract and twist it through a brain that is under the strain of desire, pity, or personal ambition, is to make it lose the quality of truth, however honest and however able the man may be from whom it came. The whole moral atmosphere of the world to-day is such that true, perfect, scientific work in bacteriology, pathology, and therapeutics is almost impossible. The men who could do such work, or who are trying to do it are beset with temptations and annoyances on every hand.

Ambition, fear, hope, sympathy, love, and hate all conspire to form a personal equation, the exact value of which no man can measure. The antivivisectionists add their share to the confusion by making it almost a necessity that some sort of evidence be forthcoming of direct practical results. They raise a popular clamor for evidence of benefit to the race that can be understood by laymen.

As nearly all the benefits, instead of being direct results of vivisection, are results of results, every effort is bent toward satisfying the public clamor. Utilitarianism of the crudest kind is thus strang-

ling these departments of science by forcing upon them a task that cannot be accomplished as quickly as desired. The grand rush for prizes is getting away ahead of the preparatory or foundation work, without which these prizes cannot be wrung from nature. The few actually secured are the outcome of work done long ago.

Utilitarianism is all right in its proper place, but that place is certainly not medical science. The less we have of it there the better for the world. We want work done that does not pay in the ordinary sense. In bacteriology we want men to take up single organisms and study their whole life-history, what their normal course of development is, how they are affected by varying conditions of environment, how they are affected by the presence of other microbes, how they can be modified by conditions and what they are capable of doing.

There is not a single item of information that we can obtain concerning them that is not worth knowing. In pathology and therapeutics we want a multitude of scientific workers to study the effects of toxic and non-toxic agents upon all sorts of animals, including men. Every substance must be studied exhaustively in its effects upon the cellular and gross structures of hearts, blood-vessels, glands, all internal organs, and every tissue of their bodies.

Until work of this kind is done on a large scale and the fundamental laws of therapeutic and toxic action are adduced, our practice must remain to a large degree purely empiric. All this work must be done for the love of it by men with altruistic hearts willing to sacrifice their time and means and willing to bear the odium of misguided zoophilists while silently praying, "Father, forgive them, for they know not what they do."

AMONG THE EDITORS

SOCIAL AND PROFESSIONAL VISITS

The young man entering practice is often in a predicament and has hard work to make fine distinctions. One of his difficulties is in knowing how and when to make friends of his patients and patients of his friends. An older physician once said that for every friend made by a young man two patients were lost.

A physician goes to see a sick one, be it man, woman, or child, and he is asked to remain, perhaps to spend the evening or to take a meal. That is the fatal step. As soon as he begins to drop in in a familiar way to ask a few questions and make a few suggestions, and then remain for a social talk, just so soon is his position as a family physician in jeopardy.

A young physician in New York State has just brought suit against a fair patient for a bill for services, which she maintains she does not owe, as so many of the visits were of a social nature. By bringing the suit the physician made clear his position and found an enemy in his fair patient, and, being in a small place, he probably hurt himself more than the amount of the bill, while the patient was taught the lesson that good services may be rendered even though harmless talk and persiflage be mingled with the good advice.

As long as there is illness in a house social visits should cease, and when professional advice is asked during a social visit it should either be given cheerfully and openly, so that the patient understands it is free, or else it should be made clear that it is a professional service.—*Maryland Med. Jour.*

FEES AND CERTIFICATES OF DEATH

A remarkable case has been tried at the West Ham police-court where a medical practitioner named Blewitt was summoned for refusing to give a death-certificate without reasonable cause. The facts of the case were as follows: Mr. Blewitt had attended a woman named Desborough in her confinement and also the baby, who died upon Dec. 2, aged 2 months. When the father

called for a certificate Mr. Blewitt is reported to have refused to give one until he had been paid his fee for attending Mrs. Desborough. As the child could not be buried an inquest was held, at which Mr. Blewitt attended, receiving his fee of one guinea. In his evidence he said that signing certificates took up a certain amount of time, that that time could only be obtained by special appointment, and that appointment could only be made upon payment of a retaining fee. As he had never been paid for attending Mrs. Desborough he turned the fee for attendance on her into the retaining fee for the death-certificate. At the police-court he was fined 40s. and costs—in all £5 9s. 6d. Now this shows very well the hardships to which medical men are liable. First of all the delay which occurs in their receiving payment for services rendered; secondly, the responsible duties laid upon them by the State which they have to give without fee or reward. But it also points the moral that illegalities should not be committed because the law is bad. Mr. Blewitt was quite in the wrong in saying that death-certificates could only be obtained by appointment, such appointment having to be paid for, and by his action he necessitated an inquest and put the ratepayers to an unnecessary expense. It savors of a Gilbert comic opera to see a man receiving a fee for giving evidence in an inquiry which has been set on foot owing to his illegal action, but the fact remains that even if he does get, or has got, paid, he will still be out of pocket by the amount of £3 16s. 6d.—*The Lancet.*

PROFESSIONAL ETHICS AND COURTESY DEPENDENT UPON THE PLACE WHERE EXERCISED

When a patient comes to the private office, right feeling demands that he shall not be treated so long as he is still under the care of another physician. At least when called to the private residence no man with any decency would treat the patient while another previously in attendance should not have been discharged. If he did so, even our Board of Censors, lenient and usually not capable of being incensed, would certainly vote to turn the erring and unrepentant brother out of any well-regulated

medical society. The question now arises, Is ethics and professional courtesy a matter of location or of principle? And this question stares us in the face when we consider that if a patient comes to a hospital or dispensary no such considerations arise; no questions are asked, but the patient is treated as if there were the most perfect right to do so, and utterly regardless of the fact that another private practitioner may have been or still is treating the patient,—his bill unpaid, possibly, and no hint of discharge having been given him by the patient. Such action, we have no hesitancy in saying, is straight-out unprofessional conduct. Those who uphold the code of ethics must either change it or change their conduct; those who are not guilty of this inethicality and who are jealous of code honor should see to it that the abuse is stopped. Morality, at least our professional morality, is not a question of place or position. If it is wrong to steal a brother's patients at the private residence or at the private office, it is also just as wrong to do it at the hospital and dispensary. It is high time that we clear this question up and not drown it with strabismic ethics in the sewers of casuistry. Either quit the cant of hypocritical code-worship or reform all conduct according to the code commands. There is no *tertium quid*.—*Philadelphia Medical Journal*.

MATRIMONY AND THE RÖNTGEN RAYS

The Röntgen rays are every day finding new applications, but not the least surprising (says the Paris correspondent of one of our contemporaries) is the very recent matter-of-fact suggestion of a stolid, prosaic German doctor as to their availability in the selection of a bride. The end of marriage being the reproduction of the species, any hindrances to this end which exist, and which may be discovered without subjecting the persons concerned to any indignity, he argues, should be found out before marriage. Any insuperable pelvic contraction may thus be easily detected, and he suggests that fiancés should exchange not only ordinary, but x-ray photographs, when the preliminary steps to matrimony are being

taken. This method, he considers, will be of invaluable service to members of royal and aristocratic families to whom the birth of an heir is all-important.—*Med. Times*.

OUR AUTHORITIES

Who are they? What have they done to make them great? It is best that we make no attempt to name them lest we offend many thousands who make the claim for themselves, without warrant or assistance. My gentle reader you must know them without any introduction from me, for they fill the earth with their greatness. Woe unto the poor ignorant doctor who has not heard of them. They know all things, and their word is law. They are great surgeons, specialists, and mighty men of valor, who have risen from the ranks of the common herd. Let the general practitioner, and all listen to their wisdom, and humbly submit to their decision, from which there is no appeal. What have they done? Done! Why everything. Have not they contended that the human blood-vessels contained only air, or air and water? That water would kill a fever-patient, and that teaspoonful doses of calomel, frequently repeated, would cure fever and all other diseases? That pus was necessary for the proper healing of wounds and devoutly to be wished for in surgery? That bleeding would certainly revive the exhausted, and leeches were the *sine qua non*? That vaccination would not prevent small-pox, and was criminal, at the same time liable to make brutes of people? What have they done? I repeat: Have they not compelled us to give our poor gullible patients portions of snakes, scorpions, beetle-horns, sebaceous matter from the castor, and testicles from the lamb?

MORAL

Let each doctor treat the patient and not the disease. Let us beware of fads and frauds. Let us think for ourselves, and above all things cultivate the faculty of class observation. This has been sadly neglected. Let us follow blindly no man, but think and practice conservatively. Time will prove all things and tell posterity who our authorities have been.—*Charlotte Med. Jour*.

CURRENT TOPICS

THE RED CROSS OF EUROPE AND AMERICA

The editor of *Our Dumb Animals*, when not at cross-purposes with science and the true interests of humanity in his war against vivisection, is the author of many very touching and grand statements. In his April issue the following beautiful tribute to one well worthy of it we take the liberty of reproducing. Every medical man must know how true all this is and must often have wondered at the grand and earnest devotion in behalf of the suffering of the lady referred to, as well as those associated with her in her work:

Into the shell-shattered city of Strasburg on the morning after its capitulation to the Grand Duke of Baden, there walked unguarded, unattended save by a maid, a slight delicate woman in a dark, plain dress, with a scarlet cross wrought in her sleeve above the elbow. Through the battalions of conquering troops which guarded the city she went fearlessly, unchallenged and unmolested, and the sentinels on the ramparts grounded their muskets as she touched the scarlet symbol on her arm and hurried past them over the heaps of dead and dying, into the heart of the stricken city. She found famine, fire, terror, a shattered city surrendering through hunger, its hospitals filled with wounded women and children, its streets swarming with half-naked, half-starved, frenzied people, a city whose able-bodied men were all in the conscripted ranks of the French army or in the prisons of Germany.

Through the instrumentality of the stranger, in forty days the hungry were fed, the sick healed and the naked clothed. Boxes of supplies came by hundreds into the city, marked ever with the scarlet symbol she wore, money poured into her treasury faster than she could spend it, and scores of brave nurses and heroic assistants gathered about her. White hands that had never known labor bound the scarlet badge on their arms, and the proudest ladies of Germany, under the sign of the crimson cross, went down to the help and succor of the city which their troops had conquered. Indeed, so abundant were the offerings of clothing, that a message was sent to the Empress, "You are making paupers of Strasburg with your generosity; send me material rather than clothing, that I may hire them made up here, and thus create an industry for the people." The material was sent, and twice each week hundreds of women went to her door with baskets on

their arms to receive their work, for which they were abundantly paid. Forty thousand neatly fashioned garments of assorted sizes were packed in boxes stamped with the scarlet cross.

The Commune had fallen in Paris. The crash of the Column Vendome still thrilled in the startled air. The flames of the Hotel de Ville lit the city with the lurid light. The streets were reeking with blood, and the air was heavy with the groans of the dying.

Suddenly there appeared the same vision of mercy that came to the need of Strasburg. Pale, dust-covered, travel-worn and well-nigh exhausted, for she had walked seven miles into the city (90,000 horses having been eaten by the people, none were left for transportation). The German troops outside the city detained her with no questions when they caught the gleam of the scarlet cross. Cordons of French soldiers guarding the streets lowered their bayonets as she touched the glowing symbol, and the sullen, frenzied mob made way for her to pass.

The mayor had been reinstated in his office but a few hours, the dust of months lay thick on books and papers, his assistants were hurrying to and fro and writing frantically. The mayor himself was anxious, weary, heart-sick. Suddenly a soft voice sounded in his ear, an earnest, resolute, tender woman's face was lifted to his own, he caught the gleam of the scarlet cross, and heard the low, clear words, "Mayor, I have come to help you. I have 40,000 garments in my boxes outside the city, and plenty of money." The mayor's house was instantly at her disposal, but she argued. "It is too grand for my work; give me some humble place where the poor will not be afraid to come to me."

"Madam, eight months ago I left my home, as I supposed, to be burned—to-day, through the grace of God, it stands intact. Is it too good for God's poor? Make it your headquarters—they will go to you anywhere."

The history of Strasburg repeats itself, and the hungry were fed, the naked clothed, the poor taught self-helpfulness, and then the woman of the red cross vanished.

When the Mississippi overflowed its banks in 1884, and the people were without homes, food, money, or seed for the next season's planting, suddenly out of the turbulent waters a steamer laden to her guards with every variety of provender, sustenance, and comfort for man and beast, came to the rescue of the suffering people. Whence she came, how provisioned, by whom supplied, no one knew; only a woman stood at the

helm with a cross of crimson on her sleeve, and at the mast a banner floated—a shield of white crossed with scarlet bars. When the floods abated and the needs were all supplied, the strange craft vanished and her colors were hauled down in an unknown port.

High up in the Balkan mountains the soldiers of Bulgaria were freezing and dying for want of supplies. Word came to the woman with the scarlet cross, was forwarded to her colleagues in various cities, and before night this telegram was sent from New Albany: "Call on us for \$500 for the Balkan soldiers." The message was cabled to Geneva, Switzerland, the next morning: "The Red Cross of America sends \$500 to the Balkan soldiers." Telegrams were sent from Geneva to Bulgaria, goods were purchased to that amount, and the next day after the woman of the red cross received the call of need, high up in the fastnesses of the Bulgarian mountains the soldiers were receiving the warm garments sent.

Who is this mysterious woman that controls the soldiers of opposing armies and commands the Exchange of the world with the gleam of the scarlet cross?

Heroes of the rebellion knew her as the first woman nurse to bring comfort and succor to the wounded. Surgeons remember when her white-tented wagons drove upon the field the things most needed were at hand. The army of the Potomac knew her, and the heroes of Morris Island have never forgotten the only woman who remained on the island, caring for the wounded while the shot and shell fell like hail. The Andersonville prisoners remember the woman who took them by the hand, and the widows and mothers of the Andersonville dead will ever remember her at whose request the bodies of the 30,000 men who died there were identified and buried in marked graves. The sufferers of the Ohio floods, Michigan fires, Charleston earthquake, Texas drought, and recent Mount Vernon tornado can tell you who she is, and every sovereign in Europe knows well the name and works of Clara Barton, the President of the "American Red Cross."

Who would not rather be Clara Barton than king, queen, or emperor?

SANITARIUMS FOR CONSUMPTIVES

The urgent need of sanitariums for the consumptive poor in our large cities was forcibly presented by Dr. S. A. Knopf in a paper read before the American Public Health Association in October, 1897 (*Popular Science Monthly*, March, 1898). The author shows, in the first place, that the homes

of these invalids are as unsuitable as they can be for their proper treatment; that with them their families and their fellow tenants are sure to be infected, and the neighborhood is in danger. Neither can they properly be received in the general hospitals, where the annoyance to other patients in the ward—always a great danger in itself and sometimes fatal to the patients—is added to the danger of communicating tuberculosis. They should be isolated. A number of instances cited of special hospitals for consumptives maintained by private enterprise, to show that patients can be cared for economically at such institutions, and with a success according to the stage of the disease when they are taken there. At St. Joseph Hospital, New York, 1500 far-gone cases are cared for annually at an average cost of fifty cents a day. At Saranac Lake, where incipient cases are taken, from 30 to 35 per cent. are cured with an average stay of eleven months and ten days; at Liberty 50 per cent. are improved after three months, and about 25 per cent. are cured. At Sharon Sanitarium, near Boston, 25 per cent. of "arrested cases" are reported. Other sanitary advantages are mentioned as likely to accrue from the establishment of such sanitariums and their proper management. Patients will, for instance, receive there a proper sanitary education, and be drilled in sanitary practice, taking which to their homes, they will become educational factors in public hygiene. Dr. Knopf proposes to have these sanitariums controlled and maintained by States and municipalities. It would be well to have the infection of corruption removed from State and municipal politics before this is done. G.

INDICATIONS AND CONTRAINDICATIONS FOR BICYCLE-RIDING IN WOMEN

Gynécologie sums up Fauquez's conclusion on the subject as follows (Dec. 15, 1897; *N. Y. Med. Jour.*, Jan. 15, 1898):

Bicycle-riding may be recommended in cases in which there is absolute integrity of the genital organs, for anemic and chloro-anemic persons, for dyspeptics, for neurasthenics, for sterile and obese persons, for young girls in whom menstruation is not normally established, and for women who have suffered from troubles dependent upon the menopause.

In cases of diseases of the uterus or the ovary this exercise may be advised as follows: 1. In uterine congestion. 2. In amenorrhea or suppression of menstruation connected with an arrest of development of the ovaries and of the uterus, with anemia, chloro-anemia, digestive troubles, neurasthenia, and chronic affections, with troubles

resulting from physical or mental shock, cold, etc. 3. In dysmenorrhea connected with nervous troubles. 4. In congestive dysmenorrhea due to any cause capable of provoking congestion in the uterus and the ovary, such as physical or mental shock. 5. In deviation of the menses or supplementary menstruation. 6. In fibrous tumors when the hemorrhagic stage has passed.

Bicycle-riding may be permitted in cases of mechanical dysmenorrhea due to an obstruction to the discharge of blood, either congenital or acquired, and in membranous dysmenorrhea; in cases in which the uterus becomes displaced; in cases of chronic metritis connected with the arrest of involution of the uterus after confinement or abortion, if it is not painful and recovery has begun.

In this case, however, the exercise must be taken in moderation; in cases of leucorrhea in anemic and chloro-anemic persons, and in cases in which the general condition is weak.

Bicycle-riding must be absolutely proscribed as follows: 1. In amenorrhea connected with pulmonary phthisis, cancerous affections, diabetes, organic diseases of the heart, and diseases of the kidneys, such as albuminuria. 2. In cases of metrorrhagia or excessive menstruation. 3. In cases of inflammation of the uterus and its annexa, acute metritis, chronic painful metritis, hemorrhagic endometritis, purulent endometritis, leucorrhea connected with an inflammatory condition of the intra-uterine mucous membrane, inflammation of the annexa, salpingitis, oophoritis, salpingo-oophoritis, perimetritis, pelvic hematocoele and of fibrous tumors during the hemorrhagic stage. 4. In vulvitis or vaginitis, before complete recovery. R.

BERI-BERI IN IRELAND

A note in the *Jour. of Mental Science* (No. 147) directs attention to the third outbreak of beri-beri in Ireland within the past four years.

That the outbreaks have all occurred in the same institution (the Metropolitan Asylum) would indicate that this disease is endemic there.

The outlook for a release from this pest is not good, for the authorities, while they have remedied the unsanitary conditions to some degree, are criminally slow to realize the fact that relief can only be obtained by the total evacuation or destruction of the buildings.

Several members of the nursing force have contracted the disease. Between May and October (1897) there were 200 cases of beri-beri in the asylum. U.

SELECTED PAPER

PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART*

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LECTURE II.

ACUTE INFLAMMATORY DISEASES OF THE HEART

THE general line of treatment in the vast majority of cases of acute inflammatory diseases of the heart is the same. We might, after recognizing the presence of heart-disease, so far as treatment is concerned, keep our stethoscope in our pockets. For we have chiefly to consider the fundamental complaint of which the cardiac affection is in most cases a part, and this disease is, in the majority of instances, acute rheumatism. Now, from the heart point of view, and indeed from any point of view, I think all authorities are now agreed that the right treatment of acute rheumatism is absolute rest in bed in woollen wrappings, a free relief of the bowels, and the administration of sodium salicylate in efficient doses, in combination with such alkaline remedies as the condition of the urine may suggest.

It was shown very emphatically by the late Dr. Sibson¹ that the difference between absolute and incomplete rest in the treatment of acute rheumatism was an exemption from heart-complication of 71 per cent. as contrasted with 44 per cent. We never see now those cases of acute rheumatism involving three to six weeks' acute suffering so little influenced by treatment as to render possible the warm discussions of not thirty years ago at our clinical societies respecting the relative merits of alkaline drenches, multiple blisters, or mint-water drinks and dry cotton-wool applications in that disease. But few cases now endure more than five days' suffering under the salicylate treatment, and a treatment of the general disease thus successful can scarcely fail with due care and foresight to prove in some de-

* Delivered before the Royal College of Physicians of London, March, 1898.

gree preventive of cardiac lesions, which are true manifestations of the rheumatic poison, usually of somewhat later appearance than the joint phenomena.

The earlier statistics, both with regard to the influence of salicylates and other drug treatments in lessening the tendency to heart-disease in rheumatism, are for the most part valueless, being based on hospital cases, the previous existence of heart-affection not being certified, and the treatment before entering hospital not being given. It can scarcely be doubted, however, that the current view that salicylates do not lessen the liability to cardiac lesions is founded on the fallacy that cases early relieved of pain and fever by salicylates are often allowed to go up too soon. The so-called relapses are rightly described by Dr. Howard as rather "recrudescences of a disease not yet terminated." The average time spent in hospital for acute rheumatism—thirty days—is nearly the same under all treatments, the full alkaline treatment having a slight advantage; and during the greater part of this time the patient must remain in bed under strict treatment by warmth and rest and appropriate drugs. If, therefore, on the relief of pain and reduction of temperature the patient be regarded as convalescent, and be allowed out of bed, he assumes the position of one with acute rheumatism still upon him treated with incomplete rest, and so becomes doubly liable to cardiac manifestations.

I may pass by the local treatment of cardiac disease in rheumatism, with the remark that it varies according to the views of particular physicians. There is no doubt that a certain few cases are wisely treated variously at the physician's discretion by cold or warmth, by blisters or leeches, according to particular indications. It cannot be said that any one plan of treatment is to be recommended as superior in all cases.

Why should rest, absolute recumbency, be so important in acute heart-affections? We cannot still the heart, but we can lighten its burdens and lessen its restlessness. The mere difference between lying down and standing up to the healthy heart is ten beats a minute, or 600 beats an hour. How

much greater may it not be to the heart irritated by acute disease?

The pulse naturally quickens as the temperature rises. Hence by mitigating pyrexia we, *cacteris paribus*, rest the heart. It is generally held by pathologists that pyrexia lowers arterial pressure, but the conditions that attend rheumatic pyrexia, multiple joint-inflammation, and excessive metabolism, with high density of urine, would favor heightened arterial tension. Our alkaline and salicylate remedies reduce arterial pressure both directly and indirectly by stimulating skin and kidney function. So that the general remedies most applicable to the fundamental diseases are at the same time specially suitable for the requirements of the local malady.

Are there any special remedies to be employed for the heart-condition? There are but few. The group of heart-medicines is not, as a rule, applicable until the case has fully emerged out from the general disease, and has become a single-organ malady. It may be said, generally speaking, that digitalis and its class are useless in acute inflammatory heart-affections; that aconite, with certain exceptions, is harmful; mercury has long been abandoned with venesection and other violent measures. There are two forms of cardiac lesion, however, which may frequently be treated by moderate doses of opium with great advantage. They are pericarditis and myocarditis, conditions often conjoined, the especial indications being pain particularly manifested in some (not all) cases of pericarditis and irregularity of rhythm, tending to tumultuous action with failing power, characteristic of myocarditis.

Endocarditis in rheumatic fever affects the mitral valve most commonly, the aortic orifice much less frequently; the more complex mitral flaps stiffened, and with their opposed surfaces thickened by vegetations, permit of regurgitation, whilst the aortic valves, losing their flaccidity, and being roughened by vegetation, are unduly salient during systole, and so cause obstructive murmurs. Neither of these conditions calls for, or responds to, at this stage, any treatment additional to that already laid down

for the dominant complaint. It is somewhat inadequately argued that sodium salicylate does not influence heart-affections in rheumatic fever. This view is founded upon a double misconception. In the first place, the murmur, or pericardial friction, heard in endocarditis, is a result of altered mechanism, rather than an evidence of activity of lesion. Their continued presence does not show unchecked activity of lesion, nor could they be expected to disappear like the fading blush over the rheumatic joint. More than this, cardiac rheumatism affects a part in constant functional activity, to which the term rest is only relatively applicable, and further, the mild degree of daily pyrexia, which is often prolonged in endocarditis, is probably partly due to contamination of the blood-stream by serofibrinous material exuded from inflamed surfaces, which, although not septic, has yet become foreign through alteration by products of cell-proliferation. After the third or fourth week, the salicylates may be replaced by quinine and arsenic as remedies better suited to combat this phase of the malady.

There are various considerations which emphasize the importance of more prolonged rest in cases of acute rheumatism accompanied by cardiac lesions. The difference is a striking one between the ephemeral results of other inflammations in a joint or even in a fascial membrane, and the same affection of a cardiac valve, the pericardial sac, or even the pleura. But this different result is well accounted for by the conditions of unrest that in different degrees obtains in each of the three latter parts. This condition depends on automatic mechanism happily beyond our control; but, as pointed out in speaking of the acute phase, we can very materially lighten the labor of the heart and lessen the strain upon the valves by maintaining the body in recumbent repose.

It is true that in the milder cases of endocarditis the inflammation may be mainly seated at, or even limited to, the lines of contact of the valves, the points of greatest strain, as has been pointed out by Moxon, Sibson, and other authors, but in more severe cases the whole valve partakes in the

inflammatory hyperemia, and is the more liable to become so involved the more it is subjected to premature functional strain. But for a considerable time after active inflammation has passed, a time varying much in different cases, a smouldering endocarditis goes on attended with a slight daily rise of temperature, so slight sometimes as to be ignored by the attendants, and yet during and beyond all this time absolute rest is necessary. The valves are softened and thickened by nuclear granulation-tissue and new fibrous formation. They readily yield and become distorted under any increase of blood-pressure, whilst the nuclear tissue further develops into hard and contractile cicatricial tissue, which fixes and further distorts the valves.

The infrequency with which aortic regurgitation and mitral stenosis are met with in primary cases of rheumatic fever cannot fail to have impressed clinical observers, but the lesson to be received from this fact has not been duly learned. Dr. Sibson² points out that of twenty-four cases of acute rheumatism with primary endocarditis, treated by a rigid system of rest, only one gave evidence of aortic as well as mitral disease, whereas in nineteen instances out of 127, or one in 6.7 cases not so rigidly treated in this respect, aortic regurgitation was present. But even Sibson did not point the lesson, for he only insisted upon the importance of maintaining rest for "a period of several days after the complete disappearance of the local inflammation of the joints."

If it be true that aortic regurgitation and mitral stenosis—rarely met with in primary rheumatism—are the results of secondary changes in the valves caused by (1) strain upon the softened valves, (2) by cicatricial deforming changes in them, the first of these can be to a great extent prevented, and the second to a great extent lessened and modified by maintaining the patient quiescent for a sufficient length of time.

The exigencies of hospital routine, the pressure of perhaps more urgent cases, and the natural anxiety of the patients themselves to get home, result in the discharge of rheumatic-fever cases even with heart-complications within a month or five weeks,

when perhaps another month's rest would add many years to the life-estimate. A very bad lesson is thus taught to students.

In private practice, in dealing with children and young people especially—and they are numerically by far the most important cases—it is not difficult, with sufficient firmness in explaining the position, to secure an adequate period of rest to allow of a complete subsidence of inflammatory change and a restoration of due resisting power in the weakened valve. At least two months after an attack of rheumatism, involving the heart, and in some severe cases from four to six months, is necessary for this purpose. A minute attention to the temperature-chart and pulse and careful investigation of the cardiac sounds will be the chief guides in regulating the rest treatment of these cases. For a further ill-defined period of months very gradual and careful return to an amount of activity suitable to the case must be permitted.

Under this system of management very striking results, in many instances practically complete cure, will be obtained, especially in children and young people. It was taught in my student times by the greatest of living clinical teachers that children grew into rather than out of heart-disease. I have been surprised since to meet with many instances to the contrary, and I venture to think that the opinion was based largely upon the experience of the Children's Hospital dealing with poor children who were not maintained long enough at rest, and who returned later with the results of the deforming endarteritis.

I have pointed out that the cardiac group of drugs is of little value in the early stages of heart-disease. Our object is to promote resolution and the healing process. Our primary object is not at this stage to increase heart-power, which would indeed only antagonize our views of easing valve-function. As the acute rheumatic features fade, general anemia and cardiac fatigue often present themselves for consideration in treatment, and such drugs as arsenic, strychnine, and iron are strongly indicated.

At this stage, particularly in pericardial and in some endocardial cases, the employ-

ment of moderate doses of iodide—for example, a 5-grain dose of combined iodides of soda, ammonia, and potash, three times a day, have seemed to me of some advantage in helping the resolution of the inflammatory thickenings. A due regard would, however, be paid to the toleration of the iodide, and it would in all cases be combined with some tonic, such as strychnine, arsenic, or iron. It is at this time, at the end of the pyrexial interval, that the question as to the use of digitalis comes in. A quickened and irregular rhythm, one or both arising from want of power to deal with a valve-defect, is the particular indication for the employment of digitalis. The drug is of little, if any use, and may do harm if the quickened action be the result of inflammatory irritation. Hence, where the irregularity is attributable to pericarditis or myocarditis the drug is useless; when the soft, low-pitched murmurs with raised temperature indicate active changes going on in the valves, digitalis should be withheld unless positively demanded by a failing ventricle, the special signs of which would be congestion of the lungs, enlarging liver, edema of the limbs, and very scanty urine. But these symptoms are only present in very grave cases. In the majority of instances during active valve-changes, as I have said, digitalis is not needed. In the selection of change of air for convalescent cases of endocarditis, the first consideration is freedom from wetness of subsoil. Seaside towns are generally preferable to country districts on account of the ground being well drained, the walks easy, the sunshine abundant, and facilities in the way of bathchair exercise, sunny balconies, etc., greater. I may here mention a matter of extreme importance, to which I shall allude again in speaking of ulcerative endocarditis, and that is the necessity of perfect sanitation, bearing in mind the susceptibility of the recently inflamed valves to bacterial invasion.

In cases in which the lesions are grave, the progress tedious, the necessity for rest prolonged, general nutrition may be maintained by judicious massage such as to stimulate muscle-nutrition and facilitate venous circulation. Thus do they become

better prepared for the gentler forms of exercise on first getting up. These exercises may be taken in some definite and prescribed form, as at a spa, or they may be simply directed by the knowledge and common sense of the doctor.

TREATMENT OF VALVULAR DISEASE

In a case of valvular heart-disease, having arrived at a diagnosis the physician's further deliberations mainly turn upon whether

(a) The case is a suitable one for the employment of remedies of the digitalis order, and to what extent shall they be pushed.

(b) Does the case require complete rest? or

(c) What degree and kind of exercise will be beneficial, or may be permitted?

(d) The general state of the patient, his nervous system, condition of nutrition, blood-state, etc., will have to be considered, as well as those special functions of kidney and liver and the dropsical state, which are a part of the perturbed circulatory condition.

It is, of course, quite unnecessary for me to discuss any points of physical diagnosis, and I will at once pass on to a brief consideration of the properties of digitalis upon which we have to rely in practical therapeutics.

What are the attributes of digitalis upon which we rely in our daily practice?

1. Digitalis slows the heart's action, concentrating the force expended upon fewer and more efficient contractions.

2. It is stated that digitalis also directly stimulates the heart's action (Williams⁹). The more obvious effect clinically is rather a concentration of force and gathering of small irregular beats into efficient contractions.

3. It is generally agreed that the drug affects the cardio-vascular muscles directly. Although the ultimate plasmic distribution of the vagus in the heart is presumably the special sphere of its influence, it is highly probable that its effects extend also to the nerve-centers. It is difficult otherwise to explain the secondary effects of digitalis, especially its vasomotor effects and the peculiar nausea, resembling that of seasick-

ness, which so often proves a result of its continued use.

4. Digitalis contracts the arterioles, and this effect, in combination with increase in the contractile force of the heart, raises the blood-pressure in the arteries.

5. The effect of the contraction of the arterioles is to maintain the blood-pressure between the cardiac beats.

This effect of digitalis in contracting the arterioles has been known for thirty years, and as Dr. Lauder Brunton was amongst the first to prove it experimentally, so he has by a series of experiments made with Dr. Tunnicliffe quite recently, maintained the importance of arteriole contraction in sustaining the blood-pressure between the beats of the heart.

It must be remembered, as shown in both series of Dr. Brunton's admirable experiments, that the blood-pressure is maintained in the arteries in the intervals of systole, that is to say, that under digitalis influence, after closure of the aortic valves the aortic resilience more gradually effects the emptying of the arteries through the capillaries. Now, this effect is of great clinical importance.

1. It maintains the blood longer in the arteries, and hence favors the more effectual irrigation of organs, particularly of the secreting organs.

2. By the better distribution of the ventricle force venous congestion is avoided, and the venous current more sustained; the heart has less immediately to overcome venous inertia, and the less bulky and stagnant venous stream is more rapidly respondent to *vis-a-fronte* influences.

3. Provided always, however, that corresponding with a longer maintained arterial pressure the digitalis produces a slower heart-beat. For it is obvious that if with increased slowness of distribution of cardiac force we have no corresponding diminution in frequency of the cardiac contractions, we may get the resistance mounting up to a dangerous pitch.

From clinical observation I should have said that in medicinal doses digitalis affects the heart before the vessels, and so the proportionate conditions of its effective and beneficial action are in suitable cases se-

cured, although experimentally with the drug introduced directly into the circulation in full physiological doses the vessels have been found to react sooner than the heart.

6. Pushed beyond its therapeutic limits digitalis appears to paralyze the cardiac vagus, the heart's action becomes rapid, peristaltic, and finally stops in systole. The failure in heart-power seems to arise from inefficient and finally extinguished diastole, and the arterioles generally maintain their contraction to the end.

In considering the cases of cardiac disease, and for the moment speaking of valvular diseases of the heart, the first thing to remark is that there is to be observed a type of pulse and heart-rhythm adapted to and characteristic of each form of valvular disease of the heart, which may be regarded as normal to that lesion, and it should be the object of the physician to consider whether the rhythm of beat and the result of estimated cardiac force as registered by the pulse are in full accord with the altered circumstances produced by the valve-defect. How far the pulse varies from that of health is a preliminary part of the diagnosis, but the diagnosis made, the question for treatment is whether the character of the pulse is normal to the lesion found, or does it vary from what it ought to be under the circumstances, and to what is the variation due? On thinking the matter over in this light, we perceive that in the therapeutics of cardiac affections, after the acute stage, we do not treat the valve-defect, but we treat the heart; whilst it will be remembered that in thinking over the treatment of cardiac affections in the acute stage, we found that our measures were not directed to the heart so much as to the affected valves or pericardium, and incidentally in this latter section of acute cardiac affections we found but little employment for drugs of the digitalis order, and that in many cases their employment was positively to be avoided.

DIGITALIS IN AORTIC DISEASE

There has been much dispute as to whether digitalis—and in mentioning digitalis I speak for the whole therapeutic group—should be used in the treatment of aortic regurgitation. But in the most

typical cases of aortic regurgitation the patients are very well; they may be quite unconscious that they have anything the matter with them, they lead active, even athletic lives, and will be shocked on presenting themselves before an insurance society at being refused or very greatly surcharged. Except for accidents in the way of functional disturbances of reflex origin, vasomotor angina, to which they are very liable, and sudden or gradual overstrain to which their unguided energies tend to lead them, these patients, if they follow rationally prescribed lines of conduct, may go on very well until the degeneration period of life. Now the conditions of good compensation are steady, regular, forcible ventricle-beats, an increase in the capacity of the left ventricle to accommodate a larger measure of blood in diastole, and a vigorous and truly muscular hypertrophy to enable the ventricle with little supplementary support from the aortic valves to propel the blood through the capillaries and maintain the venous current. Under these conditions, which are faithfully recorded in the steady regular pulse, with a strong abrupt beat, rapid subsidence, and low tension of artery, digitalis is not wanted, and a powerful drug, when there is no indication for it, cannot but be harmful.

In all cases, however, of aortic regurgitation which are not interrupted in mid-career by some of the accidents to which I have alluded, the time comes when the employment of digitalis is of the greatest value. What are the indications for its use? In one word, they are the symptoms of commencing failure of the left ventricle fully to respond to the heavy call upon it, provided that failure be under conditions otherwise normal to the disease. It may be, for instance, that the ventricle is temporarily overburdened by the results of some nervous, dyspeptic, or gouty storm reflected upon the small vessels, and causing a measure of high tension to supervene upon that relaxed condition of the arterial system which is normal to aortic regurgitation, and which is probably a natural compensatory effect, induced by the relaxing influence of the depressor nerve in response to the increased

pressure within the ventricle. Under the conditions of high arterial tension thus induced, it would be very faulty practice to give digitalis; any result it might have in forcing increased work out of the already willing muscle would be necessarily at the expense of the later exhaustion, apart from the tendency of the drug itself to increase tension. Obviously, under these conditions, a mercurial and saline, or such other treatment as may specially meet the cause of the increased arterial resistance is the first measure, in combination with a little extra quietude, and to be followed by a tonic calculated to restore the fatigued heart. I have already dealt with the treatment of acute high tension, accompanied by anginal symptoms in aortic disease. It has been said that the heart in aortic regurgitation is sometimes too vigorous, its hypertrophy excessive, and that it is necessary to use drugs of the aconite order to lessen ventricular expenditure. I confess I have never recognized a case of the kind, and that, in my experience, unduly labored heart's action in this disease is always to be explained by reflected functional disturbance or increased arterial resistance. The one thing we have to look to in aortic regurgitation is the maintenance of heart-power, and any sign of over-struggle is rather to be met by measures calculated to diminish peripheral resistance:

1. Irregularity in the heart's action.
2. A want of precision and sharpness in the character of the pulse.
3. Increased displacement of the apex-beat to the left, and extended impulse upwards.
4. The occurrence of irregular smaller beats as marked in the pulse, and appreciated at the heart.
5. The supervention of a soft systolic *bruit* over the mitral area.
6. Extension of the cardiac dulness to the right.
7. The almost complete replacement of the normal, regular, strong, slow, collapsing pulse, and simple hypertrophic heart's action, normal to aortic regurgitation by a rapid heart's action, irregular in force and frequency, with a corresponding small pulse

having the characters of mitral rather than of aortic disease.

Such are in gradation the ingravescant signs of ventricle failure in aortic regurgitant disease, and the increasingly imperative indications for the employment of digitalis in its treatment. As the above signs develop, we observe important symptoms of the changed arena of struggle from the left- to the right-heart territories of the circulation. Congestion-râles appear at the bases of the lungs, fulness to enlargement of the liver, edema of the extremities, and scantiness of the urine.

Under those conditions the peculiar effects of digitalis are precisely called for to slow the action of the heart, to render its contraction more complete and regular, and thus to check the gathering of residual blood in the ventricle, and restore the efficient application of the mitral flaps by approximating their attachments.

I have before remarked that, clinically, digitalis appears to influence the heart before the vessels. There is, indeed, in all probability proportionate relationship between its effects upon these two sections of the circulation. If, as we believe, the drug acts directly upon the cardio-vascular muscle, we may safely infer that the bulk of the muscle concentrated in the heart being more than equal to that of the muscle distributed in the vessels, the predominant effect should remain with the heart. We must not, of course, push this argument too far; it is at least in favor of what I believe to be an observed fact in aortic regurgitant heart-failure, namely, that digitalis rarely affects the vessels prematurely or disproportionately, but on the contrary, by improving arterial tone, it does no more than prevent that rapid emptying of the arteries which, although normal to aortic regurgitant disease, requires a corresponding rapidity or suddenness of ventricular contraction to maintain a sufficient arterial pressure for vital functions which is very exhausting to the enervated and failing hearts under consideration. The maintenance of a strict recumbency is, of course, essential in the grave cases I have described, and, with a suitable dietary, the heart soon begins to respond to a steady

daily administration of from 30 to 90 or more minims of tincture of digitalis, or an equivalent preparation with proper adjuncts in the form of an occasional mercurial and saline. With the increasing efficiency of the *vis a tergo*, the blood-pressure in the arteries rises, and with the similarly increased efficiency of the *vis a fronte*—for the drug not only indirectly helps, but directly stimulates the right heart as the left—the venous current is hastened, the pulse will begin to steady, and at about the third day the urine will increase in quantity, the signs of venous congestion begin to diminish, the pulse to assume more and more its proper aortic characters, and the patient gradually recovers to a point short, however, of that degree of health and heart-power he enjoyed before.

Thus again and even again have we most of us seen patients with heart-failure in aortic regurgitation restored, put on their legs by the action of digitalis. Having once passed through this ordeal, they can never be said to be entirely independent of the drug. I have put the extreme case; but it is needless to say that by watchfulness in recognizing the earlier phenomena of heart-failure, which I enumerated as nearly as possible in chronological order, and by the timely employment of an occasional course of digitalis the most desperate symptoms may be long postponed. One of the greatest difficulties in practical medicine is to decide when to omit treatment, and this difficulty is particularly felt by many in regard to digitalis. I shall allude, perhaps more fittingly, to this point later on, and will content myself now with the remark that the general condition of the patient—his anemia or otherwise, his general nerve-tone, the due activity of his other functions—must be carefully watched and regarded, and the use of other remedies accordingly employed, with a mitigation or suspension as the case requires of the digitalis treatment. The final word with regard to the treatment of aortic regurgitation would seem, then, to be: Await the distinct indication of pulse-characters, even ascertain whether there are not general conditions of over-fatigue or strain, or impaired general tone from anemia or

other debility, before giving digitalis, and, having commenced with it, pursue the treatment boldly and steadily, and look under its influence, and as a sign of its success, for a return of the characters which are normal in the pulse of this disease.

With regard to aortic stenosis the same argument holds good—that is, that as soon as the normal pulse of this affection—a small, rather slow and regular pulse—becomes replaced by irregularity and frequency, accompanied by the usual signs of failing compensation, digitalis is needed. So long as the heart is beating quietly and regularly nothing but harm can come from the use of digitalis; with irregularity and disorder nothing but good, provided it be carefully watched and mitigated with returning regularity.

DIGITALIS IN MITRAL DISEASE

In mitral stenosis the strain to effect this equilibrium of the two circulations falls upon the right ventricle, which, assisted by the left auricle, has to supply the left ventricle with sufficient blood notwithstanding the narrowed mitral orifice. In the pure funnel form of mitral stenosis, a disease which is, I am convinced, often of congenital origin, the right ventricle and left auricle undergo corresponding hypertrophy and increase of capacity, and are able without artificial aid to maintain the circulation, sometimes for the first forty or forty-five years of life. The features of mitral stenosis are a high pulmonary and a low systemic blood-pressure, a regular slow pulse, a tendency to pulmonary congestion and systemic anemia. Whilst these conditions are maintained digitalis can do no good; the right ventricle is in full work, the left has got scarcely work enough to do, the intrapulmonary pressure is already near the point of strain, and the prolonged diastolic pause natural to the lesion is precisely adapted to the needs of the slowly filling left ventricle.

Any constriction of the systemic arterioles would be disastrous under such conditions, as was seen in the case I related of mitral stenosis with vasomotor constriction of vessels and pulmonary hemorrhage. The first indications of cardiac distress arising in mitral stenosis would be to relieve the right

heart by unloading the venous system by direct venesection or intestinal and hepatic derivatives, and a restricted diet and treatment of pulmonary complications as the urgency of the symptoms might require; but when, these conditions being satisfied, the pulse still remains quick and irregular, and the right heart embarrassed, the employment of digitalis is certainly indicated on the same principle as before; and in the presence of cardiac need we may as a rule disregard considerations of raised arterial tension, since, as I have urged, the first and predominating influence of the drug is upon the heart. The moment, however, the cardiac action is restored to regularity we must again remember the arterial effects of the drug, and endeavoring to maintain without increasing its effects upon the heart by greatly mitigated doses, to watch for and avoid any undue action on the vessels.

In mitral regurgitation, with commencing or established heart-failure, we find all the conditions calling for the beneficent action of digitalis, and the mere presence of a mitral murmur is often regarded as an indication for the use—it may be the very guarded use—of the drug. It must be remembered that I am not speaking of acute cases, nor would digitalis be suggested by the mere presence of a mitral regurgitation in the senile heart, of which it is almost a characteristic and often a very advantageous factor; nor again, in those cases in which the regurgitation occurs as a compensatory safeguard in overstrained ventricle from chronic high arterial tension, is it often desirable, except with much caution, to prescribe digitalis. It is in commencing heart-failure in chronic mitral lesion from rheumatic endocarditis that digitalis is so valuable. What are the features of this state? A quick small pulse is normal to mitral regurgitation, and even some irregularity of rhythm or force is of no great moment, although even now short tonic courses of the drug may be useful; but when irregularity is a marked feature, when a few beats are large and turbulent to be followed by several small beats, when the pulse no longer corresponds in number with the cardiac contraction, when the heart itself shows

signs of hypertrophy and extending dilatation of both ventricles, with dulness extending upwards over the conus and left auricle, when the neck-veins become full, fill from below and pulsate, the liver enlarges, the cellular tissue becomes dropsical, the lungs congested, and the urine scanty. With those symptoms and signs we have, with increasing urgency, the conditions calling for digitalis. These conditions begin, it will be observed, with the pulse and heart-characters which replace those which are normal to other forms of cardiac disease when failure is commencing and digitalis is cared for. This fact about mitral disease is to be noted in prognosis.

A congestion of the pulmonary and venous system, and an anemia of the arterial system are the underlying factors in this condition as in mitral stenosis. But the difference is that in mitral regurgitation the congestion is all backward; each blood-thrust of the right ventricle is met by a counterblast from the left, the left auricle is not protected by its valve from invasion backwards, and cannot therefore efficiently co-operate with the right ventricle, the cusps of the pulmonary valve have to take up in part the function of the mitral valve. Of course, there are cases and cases of mitral regurgitation. In some the leakage is so slight as to cause no inconvenience. The skilled practitioner can discriminate to a nicety as to the gravity of the case by the degree with which the first sound is replaced by murmur, and by estimating the relation between expenditure of force by the heart and the result effected in the pulse showing the degree of waste in the mechanism.

The most common mistake that one observes in the use of digitalis is that too large a dose is prescribed at first, which tends to premature arterial contraction and cumulative effects. Then, with the appearance of these physiological symptoms the drug is stopped, and some other medicine substituted, until the pulse again calls for its administration. In this haphazard way of using digitalis the heart is never held in good control. In exceptional cases, where there is urgent need to push the drug, digitalin is best used subcutaneously. In or-

dinary doses, a dose of 10 minims of the tincture every four, or 15 minims every eight hours, or 5 minims every waking hour, is sufficient. Thus given, the patient being at rest, it generally takes about three days before the pulse is under control, and the urine begins to increase. When its decided effects are thus gradually developed the drug should be steadily continued in doses calculated to maintain its effect. With ordinary watchfulness there is no risk whatever; timely warning of excess is given by the pulse, which having become slow begins to exhibit small intermediate beats, and especially a tendency to go in couples. This is always a sign to reduce the doses or to omit for a few hours. The sickness that occasionally—too often—supervenes with digitalis, is most troublesome. An occasional mercurial will sometimes prevent it, a change to digitalin in equivalent doses may be tried, or a tumbler of very hot water taken occasionally. In some cases it is not to be overcome except by omitting the drug; the patient is usually well under the influence of the drug before this symptom appears, in which case a small dose of digitalin by the mouth or hypodermically may be sufficient to maintain its effect on the heart.

In speaking of digitalis, I have regarded that drug as representing the whole therapeutic group. Digitalis is, in my mind, so far in front of all the others in efficacy, that in critical cases I should never think of prescribing any other member of the group before it. Strophanthus comes next to it in usefulness, and in physiological experiment is even more powerful. Clinically one is not so well satisfied with it, and this may possibly be prejudiced, but I have had doubts about its stability in prescriptions. It causes the same troublesome nausea. The one reason for its use is that it affects the small vessels less; this gives it an advantage in some cases, particularly, perhaps, in carrying on the effects of digitalis in convalescent aortic regurgitant and mitral stenosis cases. But as I have endeavored to point out, under most conditions calling for its use this very action upon arterioles is one of the valuable attributes of digitalis, and explains, possibly, its superiority over stro-

phanthus. I frequently, however, combine the two drugs when I want to secure an increased cardiac effect without using digitalis in doses large enough to contract the vessels too much. Convallaria comes next as a cardiac tonic in mild cases. I have only very occasionally used sparteine. One may observe that the earliest sign of amendment in cardiac failure is an increased flow of urine. A somewhat analogous relief of the stress of symptoms will often be observed with the commencement of dropsical effusion, provided that effusion, of course, be limited to the cellular and peritoneum tissue. The peculiar restlessness and discomfort that precede the onset of dropsy are sometimes very remarkable, and the dropsical effusion should rightly be regarded as one of those compromises of Nature which enable the vital machinery to go on a little longer. Dropsy is due primarily to a leakage from the congested capillaries into the cellular tissue. It is also due to a retarded removal of the fluids by the lymphatic vessels.

From a therapeutic point of view the osmotic circulation in the cellular tissue and serous and mucous cavities is scarcely less important than the vessel-circulation discovered by Harvey. The interchange between the two circulations amounts normally to many pints in the twenty-four hours, and cellular tissue and lymphatic vessels conduce a considerable share of it. The current of lymph is of extremely low pressure, and a very slight backward pressure in the veins will embarrass it. In dropsy not only is there venous retardation in the capillaries encouraging excessive exudation, but the retarded current in the great veins is a further obstruction to removal by the lymphatic vessels. Hence a considerable collection of fluid, even many pints, may be removed from circulation. The immediate effect of this removal is often a very decided relief to the patient's distress. The occurrence of dropsy may thus sometimes afford time for the readjustment of the circulatory balance in the heart and vessels. But if with the help of remedies this does not take place and the dropsy advances the question comes, when to interfere? The answer is:

Not until it is estimated that the pressure in the cellular tissue becomes great enough to equal or exceed the pressure in the capillaries. At this point interference becomes imperative, and the fluid should be removed by the employment of Southey's tubes, incisions, or simple punctures.

Very striking instances of long-abiding relief are met with from time to time from this treatment. I may quote a very remarkable case in this connection, illustrating a point which I have observed, namely, that dropsy occurs in some cases in the absence of heart-phenomena which would appear sufficient to produce it:

A lady, aged about 50, had been under my observation for some years for most intense chronic asthma, with emphysema and recurrent attacks of bronchitis. Her condition at many times seemed almost hopeless, but the one redeeming feature about her was the heart's action, which remained steady and well-sustained through her worst attacks; although there was undoubtedly some dilatation and hypertrophy of the right side of the heart, there was no sign of heart-failure. Towards the end of a bad summer in 1896 her legs began to swell, and as her distress increased with the cold weather they filled up, and by December the thighs and abdominal walls were greatly distended. She was in other respects so ill at this time that I hesitated to tap the legs until they became too prominent a factor in her distress. Even now, although the heart's action was feeble, it was neither irregular nor very quick, and there were no murmurs. She was placed in a chair, and by means of four Southey's tubes twenty pints of fluid were withdrawn in the course of fifty-two hours. Now, it is remarkable that there has never been any return of the dropsy, although she has not been free from bronchitic attacks; the limbs are perfectly slim and natural, without a trace of edema. The heart's action is as well maintained as before. It only partially failed for a few days after the removal of fluid.

I may say that this lady has never been able to take digitalis nor any drug of that series with advantage, and it has never been prescribed for her except for short times at rare intervals, and in very small doses.

I should regard the retarded venous return from the great emphysema obstructing the lungs, in combination with an overburdened right heart as responsible for the dropsy, but the case is one of a few I have seen of the kind, difficult satisfactorily to explain. It is possible that it may be an unusually prominent example of the effect of a mechanism that has more to do with dropsy than has been generally allowed, namely, obstructed venous return in the chest from great emphysema and dilated right heart, telling upon the lymphatic current in such a manner as to lessen the readiness of its escape into the innominate vein and so to hold in abeyance the share taken by lymphatic absorption in the removal of dropsical fluids.

REFERENCES.

- ¹ *Collected Works*, Vol. IV, p. 347. ² *Ibid.*, Vol. IV, p. 384. ³ Quoted with acceptance by Lauder Brunton, *Journal of Physiology*, Vol. XX, 1896, p. 357.

Iodovasogen Internally

The use of iodovasogen internally is highly recommended by Prof. Hugo Kleist (*Pract. Drug.*, Vol. III, p. 193). He has given from 8 to 12 drops of a 6-per-cent. solution half an hour after meals during the first week, and later, fasting, with several spoonfuls of water, with excellent results. He was led to employ it in place of potassium iodide, which is frequently not well borne, and the results obtained were as follows: The cardiac affections—asthma, orthopnea, tachycardia alternating with arrhythm—following arterial sclerosis and even intact valves, regularly disappeared after a two weeks' use of iodovasogen; and the valvular murmur, the frequent aortal stenosis, and mitral insufficiency, were gradually reduced, without, however, entirely disappearing. The quantity of albumin in the urine of chronic nephritis due to arterial sclerosis was also regularly reduced, at times even disappeared, but returned upon suspending the remedy for a long time, particularly after severe exertion, but it was always kept at a minimum by means of iodovasogen, the average being 1-4 to 1-3 per 1000.

In view of these results the writer has prescribed iodovasogen in cases of doubtful or decided secondary or tertiary syphilis, particularly as the remedy had also been found to be well borne in every case, to excite the appetite while furthering digestion, and to be accompanied by none of the disturbing by-effects that usually accompany the administration of potassium iodide.

CHRONICLE OF PROGRESS

MEDICINE

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A Preliminary Report on the Use of Anti-venomous Serum in the Treatment of Leprosy

Isadore Dyer (*Indian Lancet*, Dec. 15, 1897) read a paper with the above title at the International Leprosy Conference, held at Berlin, October, 1897. Acting upon the report of lepers which had improved after being bitten by venomous serpents and study of the experiments with snake-venom as announced by Calmette and Fraser, he determined to employ antivenomous serum in the treatment of lepers. Although this paper is, as the title states, a preliminary report, the results obtained are sufficiently good to warrant further trial and more widespread distribution in medical literature.

The treatment was as follows: Calmette's antivenine was used throughout, injected under the skin with Pravaz antitoxin syringe. The dose varied from 1 c.c. to 11 c.c. The injections were made every second day at first, subsequently every day. The parts of the body selected for injections were in the gluteal muscles and the skin in this region, the interscapular spaces, and, exceptionally, the leprous lesions themselves.

The result in four cases out of five was marked improvement. W.

Beneficial Effects of the Withdrawal of Bromides in the Treatment of Epilepsy

Dr. Frederick Peterson, in the *N. Y. Med. Jour.* (Vol. LXVI, No. 13), draws attention to a neglected, little-known condition.

Bromides at some time form the basis of treatment of every case of epilepsy. In some cases they have been used continuously for years.

In the hands of skilful physicians this drug has proved most valuable, notwithstanding the fact that frequent intolerance is met with, which shows itself in acute bromism, increase of seizures, and even insanity.

It is generally understood that it is dangerous to give up the bromides suddenly in cases in which they have been used for any length of time, and it is a matter of general belief that the sudden withdrawal of the bromides is apt to produce status

epilepticus or at least increase the severity and frequency of the epileptic seizures.

Dr. Peterson shows from his reported cases that this assumption is far from true. There are cases in which the sudden withdrawal of the bromides produces status epilepticus and increases the severity of the attacks. But they are in the minority.

In fact the experience of the author is that the reverse of this is the rule, that the sudden or even gradual reduction of the bromides in those saturated cases ameliorates the condition of the patient in almost every instance, that it decreases to a marked extent the number of attacks, that it lessens their severity, that it improves the general physical health, and that it re-establishes to a considerable degree memory and intelligence.

He cites four of his own cases and seven of those from Dr. Clark, of the Craig Colony, to prove that the withdrawal of the bromides in cases of epilepsy long under bromide treatment is generally followed by improvement of the patient. At times this gain is startling. Were one to try some new remedy or method of treatment in such cases, how readily might he be deceived as to the value of his therapeutic measures.

A course similar to that resorted to by the author is certainly advisable in every old epileptic case which has ceased to improve under the continued administration of the bromides. U.

Sporadic Cretinism—The Results of Thyroid Treatment

Dr. Osler, in a lengthy paper on the above subject in the *Amer. Jour. of Med. Sci.* (Vol. CXIV, No. 4, 1897), remarks:

No type of human transformation is more distressing to look at than an aggravated case of cretinism. The stunted stature, the semi-bestial aspect, the blubber lips, retroussé nose, sunken at the root, the wide-open mouth, the lolling tongue, the small eyes, half-closed with swollen lids, the stolid, expressionless face, the squat figure, the muddy, dry skin, combine to make the picture of what has been well termed the "pariah of nature."

Not the magic wand of Progress, or the brave kiss of the daughter of Hippocrates ever effected such a change as that which we are now enabled to make in these unfortunate victims, doomed heretofore to live in hopeless imbecility, an unspeakable affliction to their parents and to their relatives. Within a month to six weeks after the administration of thyroid, loss in weight is noticed, due to disappearance of the myxedematous condition and fat. The face becomes smaller, the puffiness about

the eyes abates. The projecting abdomen diminishes in size, the child's figure improves in shape. The hair becomes finer and more abundant, and the skin loses its roughness and yellow hue. Soon also the mental capacity improves.

The author begins treatment with a grain of the desiccated gland three times a day. If the pulse becomes more rapid, or if there is a rise of temperature, the quantity is diminished. This is the dose for young cretins; older ones may take as much as five grains a day, depending upon the indications. Larger doses must be tried if the patients do not improve within a few months. After improvement is marked the dose may be diminished; one or two 5-grn. tablets a week is often sufficient to keep up the beneficial effects. An intermission of over six weeks is often followed by a relapse. S.

Etiology of Laryngismus Stridulus

A. M. Erskine (*Brit. Med. Jour.*, Jan. 15, 1898, p. 145) gives an account of a case of laryngismus in which the etiology was demonstrated to be reflex. The child in question was a strong, healthy, well-nourished girl, presenting no evidence of rickets. At 5 months she had light attacks of laryngismus which passed off when she had cut her first tooth. Like attacks six weeks later disappeared when another tooth cut through. There were no more till the child was 12 months old; they were then renewed with increased severity. The physician rubbed his finger along the child's gums, and immediately produced a typical attack with carpopedal contractions. The swollen gums were lanced for three new teeth, and no more attacks followed. H.

Treatment of Chyluria by Ichthyol

Dr. Moncorvo, of Rio de Janeiro, in *Bul. gén. de Thérap.* (Dec. 8, 1897, p. 717), writes that he recently resorted to the use, for chyluria, of ichthyol whose germicide properties had already been proven and successfully utilized in the treatment of lymphangitis. He was led to use this agent after unsatisfactory results with methylene-blue and asaprol. His experience is given in the two following cases:

1. A young white Brazilian, 21 years old, presented himself with hematochyluria of four months' duration, which had been growing more severe and interfering most profoundly with general nutrition. It was at that time aggravated by blenorragia. The writer vainly tried arsenic, terpinol, benzonaphthol, and asaprol before commencing with ichthyol in daily doses of 50

ctg. (8 grn.), in pill form. This was two days later increased to 1 gme., and later to 1 1-2 gme. (2 grn.). Immediately the urine became less and less bloody, and ten days later was not distinguishable from normal urine. Microscopical examination discovered the filaria, which had lost their motility in the treatment. All symptoms and the nutrition improved along with the clearing up of urine and disappearance from it of blood. Six months later no trouble was found in the urine.

2. A Brazilian woman of 25 years, mixed race, married, had marked chyluria for a year before being seen by the writer, who found blood and chylous clots containing Wucherer's filaria. She was given 1 gme. daily of ichthyol in pills, later increased to 2 gme., both being well borne. Amelioration commenced at once. In twelve days all local and general symptoms had disappeared, and urine had become normal. No other remedy was given. The improvement has been continuous and permanent.

This rapid recovery from a stubborn, chronic, and intractable disease, so far as treated by all other known remedies, holds out great hope for future investigation of the remedy in these cases. H.

Epilepsia Alcoholic

Dr. Heinrich Stern, in a paper read before the Medico-Legal Society in New York City, and reported in the *Quar. Jour. of Ineb.* (Vol. XX, No. 1), refers to the frequency with which an alcoholic history appears in cases of epilepsy occurring rather late in life. The author divides epilepsy into two forms: (1) Symptomatic epilepsy, which is subdivided into (a) epilepsy caused by anatomical changes—molecular epilepsy, (b) epilepsy caused by toxic influences—toxic epilepsy; (2) idiopathic epilepsy—epilepsy not traceable to anatomical substrata of pathological changes or to toxic influences.

Alcoholism—especially the chronic form—is rather a typical condition of somatic and psychic deterioration than a clearly defined disease, a condition which is characterized by lesions of the nervous system and the viscera, by grave disturbances of nutrition, and by pronounced intellectual and ethical deterioration. Congestive and inflammatory processes, sclerosis, stenosis, and atheromatous degeneration affect the different tissues and organs of the body and produce their specific and typical train of symptoms. Hence the epileptic symptom of alcoholism—epilepsy—as the outcome of chemical or anatomical changes.

Although alcoholism produces well-recognizable anatomical changes, which in

turn give rise to epilepsy or other symptoms of degeneration, the author holds that those chemical alterations of the composition and vital energy of the plasmatic units, which we cannot definitely comprehend at the present day, and which in this instance are brought about by the influence of alcohol, are the principal causative factors of the symptomatic type of epilepsy, and of kindred neuroses. The normal vital activity of the cells is partly or totally suspended.

This is especially true of the nerve-cells, and if nerve-matter and nerve-tissue become in any way impaired serious consequences will result in the nervous system as well as in the system at large. Regarding the symptomatology of alcoholic epilepsy, we have the usual picture of epilepsy plus the general characteristic indications of the conditions of acute or chronic alcoholism.

The prognosis depends upon the alcoholic condition of the system, and the treatment should be directed toward removing the alcoholic poisoning and saturation present.

U.

Primary Glaucoma in the Orient

Dr. Bitzos (Constantinople), in *Arch. d'Ophth.* (Tome XVII, No. 1, pp. 30-38, 1897), describes the manifestation of glaucoma which is commonest in the Orient and by which he seeks to support the thesis advanced by him in *Annales d'Oculistique*, August, 1894, viz.: that primary glaucoma is a glaucomatous papillitis which is the only constant and early lesion causing first excavation and next increased tension. He seeks to prove that the syndrome of glaucoma is due exclusively to this papillitis, either mediately or immediately, in a word, that primary glaucoma is thus only a special papillitis. He notes that Jaeger was the first to notice glaucomatous papillitis and to point out that this papillitis, and its characteristic excavation of the optic papilla and other papillary and peripapillary glaucomatous symptoms, are the pathognomic signs of primary glaucoma; but Jaeger had failed to see the great pathogenic importance of this papillitis.

Primary glaucoma in the Orient manifests no glaucomatous signs besides this papillitis and the papillary and peripapillary changes which accompany it. Except in rare instances it is a mild, simple, chronic glaucoma with extremely insidious and slow development. The patient has no pains, no viduopsy (rainbow-vision), and no other painful or annoying symptom. If only one eye is affected, it is the merest chance if the affection is noticed until late

in its development. If examined early the glaucomatous papillitis is more or less pronounced; but, if examined late, considerable excavation, displacement, and deformity of the papillary vessels are found. The glaucomatous halo is present but is not so large. Increased tension is less than usual, rarely more than $+1$. The iris is but slightly pushed forward and the anterior chamber but little narrowed, so that the diagnosis might be doubtful without the ophthalmoscopic appearances. The pupil is sometimes irregular, rarely dilated slightly, and its color but little changed. The subconjunctival vessels either do not show, or are very small. The field of vision is usually narrowed concentrically, but occasionally the external portion remains sensitive longer than the rest of the field.

The above is the picture of glaucoma in the Orient, whose main feature is glaucomatous papillitis with subsequent glaucomatous excavation. That is, we have glaucoma in its simplest form stripped of all its usual accessories.

The author is surprised at De Wecker's recent views on "false glaucoma," and gets the impression that de Wecker is not himself quite clear in his views of the pathogenesis of this disease. Whilst increased tension is the ordinary accompaniment of glaucoma, even when silent and slow in its development, yet in cases where both eyes are affected and the tension is slight, the oculist may be in doubt and may declare absence of increased tension. The hesitation as to tension is all the greater when, in a simple glaucoma affecting both eyes and of slow development, it occurs within a few months in one eye, though it has been of three or four years' duration in the other. In the case of the eye first affected the tension is feeble. Increased tension presents itself only when glaucomatous papillitis arrives at the stage of retrogression; but, when this retrogression is far advanced, the tension frequently lessens almost or quite to normal. Notwithstanding this reduction of tension we must diagnose glaucoma on the strength of the papillary excavation and other glaucomatous symptoms, however slight, coexisting. Hence the author does not accept de Wecker's claim that glaucoma cannot exist without increased tension.

It is enough to speak of primary and secondary glaucoma: such terms as anterior, posterior and antero-posterior glaucomata confound the pathogenic lesion with the theories of those employing these terms, especially of those who hold glaucoma to be due alone to stoppage of the anterior lymph-passage. Here the author

quotes a passage from de Wecker and Landolt's *Traité complet d'Ophthalmologie*, Tome II, p. 672, in which the terms anterior and posterior are used with glaucoma, and remarks: "It is time to stop recognizing multiple forms of glaucoma. . . . It is time also to understand that neither occlusion of the anterior lymph-passage nor the other theories of the origin of primary glaucoma are capable of giving us a satisfactory explanation of glaucomatous symptoms, and that glaucomatous papillitis alone (along with the considerable hyperplasia of the connective tissues of the optic nerve resulting therefrom) gives us the solution of the enigma.

"It always astonishes me to see how the pathogenic theory of occlusion of the anterior lymph-passage has so greatly preoccupied ocellists. In vain does the clinic cry out to us that this passage is not closed in all the glaucomata in which there is but slight increase of tension, and that it is not closed even in irritative glaucomas during their first stage and sometimes during their whole progress; in vain does pathological anatomy confirm what the clinic teaches, we continue to insist on it.

"Clinical experience and pathology both show that the sole constant and early lesion in primary glaucoma is the lesion of the optic nerve. This lesion, apparently insignificant, can cause all the glaucomatous symptoms, if we admit, what is more than probable, a posterior lymph-channel through the papilla of the optic nerve." It explains the papillary and peripapillary phenomena. Occlusion of this lymph-channel through the papilla of the optic nerve, explains the increased tension from distension of the vitreous sac. This distension, the pressure on the ocular membranes and the ciliary nerves, explain the protrusion of the lens and iris, the ciliary stasis, the disturbance of the aqueous humor, the injection of the anterior ciliary veins, the edema of the cornea and its loss of sensation, the ciliary neuralgias, the lessening of the amplitude of accommodation, the dilatation sluggishness and deformity of the pupil as well as its white hue, the inverted astigmatism, the peripheral adhesion of the iris to the cornea and its atrophy.

It is not doubt of the existence of the posterior lymph-channel, nor the apparent insignificance of the papillary lesion, but the good results obtained by iridectomy, that has turned attention away from the papilla of the optic nerve. But all that iridectomy does is to lower ocular tension, and it is indicated only when there is marked increase of tension. This alone cannot fur-

nish us any help in explaining the pathogenic lesion. How iridectomy lowers tension and is sometimes salutary against glaucoma is still an open question.

From his own observation the author says: I should say that iridectomy lowers tension by its removal of so much iris: the operation is beneficial in proportion to the size of the piece removed. It is followed by softening and narrowing of the anterior chamber, which the author attributes to removal of so much tissue whose function is to secrete the aqueous humor. Besides, iridectomy delivers a glaucomatous eye from a very grave complication and permits the condition to proceed naturally. Hence its efficaciousness is proportionate to its early performance when tension is extreme and the condition is very acute. But when the tension has already destroyed the nerve-fibers, or when iridectomy is done early in a slowly developing irritative glaucoma, it does little good.

Now, if glaucoma is a particular kind of papillitis, mercurials ought to be beneficial, even when the cases are not syphilitic. The author has given, on this hypothesis, .02 ctg. (1-300 grm.) of the sublimate a day, in pills without opium, continuing the treatment for six months with occasional stoppage of the medicine for a week. The myotics were used at same time. He is able, he thinks, to give the mercurials credit for amelioration in many cases, especially where used in the first stages of the disease. When with the myotics they seemed not to suffice, he lost no time in resorting to iridectomy to lower high tension, continuing the mercurial as long as the disease was developing. The mercurial is still on trial. In his cases it was used where there was no sign of old or recent syphilis. H.

The Spinal Cord in Pernicious Anemia

Clarke (*Brit. Med. Jour.*, 1897, p. 325) reports two cases. In the first, the patient being a woman of 46 years, the changes in the cord were substantially those hitherto described as occurring in pernicious anemia, i. e., degeneration of the posterior columns with some involvement of the lateral columns. The posterior-column degeneration was very intense, included most of the columns of Goll and Burdach, and extended from the highest to the lowest point of the cord. Lateral-column changes were limited to the pyramidal tract of one side in the lower dorsal and upper lumbar regions; the direct cerebellar tract remained intact.

Changes in the second case, a man of 38, were decidedly exceptional, the degeneration of white matter being restricted +

small symmetrical patches just external to the gray matter between the anterior and posterior horns. These areas were also limited in longitudinal extent, corresponding to about one cord-segment. In the gray matter were marked changes which seem to be contrary to the rule.

The vessels were intensely injected, and there were many hemorrhages, varying in size, but all microscopic, into the gray matter. These hemorrhages were distributed chiefly about the central parts of the gray matter, posterior part of the anterior cornua, and neighborhood of the commissure. Besides the hemorrhages there were in places small areas in which the gray matter was granular, partly disintegrated, or sclerosed. The nuclei of the glia-cells were either normal or slightly increased in number.

Certain of the nerve-cells of the anterior cornua were swollen, opaque, and homogeneous, their nuclei obscured; others were highly granular and deeply pigmented, and a few appeared small and shrunken, but the large majority appeared normal. The walls of the small vessels were much thickened and very many showed hyaline change. In places the anterior fissure was broadened by the distended arterial branches. The central canal was blocked. These changes in the gray matter were judged to be of fairly recent occurrence, and not of old standing, and were most marked in the upper dorsal region. No hemorrhages were noticed in the other organs post mortem. U.

Consumption—An Indoor Disease

S. W. Abbott (*Boston Med. and Surg. Jour.*, Jan. 6, 1898) suggests that the conditions which may be considered as mainly accounting for the fact that consumption bears the characteristics of an indoor infection are:

1. Within the Body—(a) A slow and indefinite period of incubation; (b) in the majority of cases it appears as a disease of the lungs; (c) selection of the youthful or early adult period of life (15 to 30 years); (d) it exists as a disease of certain other mammals as well as of man; (e) mode of entrance into the body, by the lungs, the alimentary canal, and by inoculation through the skin.

2. Without the Body—The infection leaves the body mainly in sputum coughed up from the lungs, but may occur in secretions or excretions from other diseased organs. The infectious sputum is mainly that of the lungs, and not that which is simply discharged from the mouth as saliva; nor does it actually exist in vomitus. The tu-

berculous sputum specially dangerous is dry, the sputum of inclosed air-spaces constituting a far greater danger than that which remains out of doors. Given a definite number of healthy persons and let them be divided equally as to an indoor and an outdoor life, and let an equal quantity of infectious material be distributed equally among the two groups, and it may be laid down almost as an axiom, that the indoor group will become infected in far greater numbers than the outdoor group. This is due to the density of aggregation and the limitation of the air-supply. The preservation of the vitality of infectious material is also secured by the protection afforded by enclosed areas.

In proof of the proposition which forms the title of the paper, the author offers proof by presentation of tables: 1. As to the evidence presented by observations upon the mortality in different occupations. 2. The proofs afforded by the records of mortality by sex and age-periods. L.

Chronic Gonorrhea—Its Scientific Treatment

In the *Clin. Rec.* (Jan., 1898), Dr. Ferd. C. Valentine gives a summary of a paper prepared for the Second Pan-American Congress at Mexico.

After touching upon the various methods employed in the treatment of this obstinate disorder, he gives the results of his experience with the newer and more scientific methods of dilatation and thorough irrigation. He closely follows the directions set down by Oberlaender, although he does not carry his dilatation to the degree that Oberlaender did. The cardinal advantages of his method are:

1. Easily obtainable practical asepsis.
2. Painless introduction of instruments.
3. Precision in dilating those spots which the urethroscope has shown to be diseased.

4. Cessation of the morning drop.
5. Rapid arrest of reflex symptoms which manifest themselves in physical and nervous disturbances.

6. No temporary or permanent disadvantages to the patient or his occupation.

The first steps are thorough cleansing of the external and internal surface of the prepuce, the glans, the corona, and the meatus with mercuric bichlorid 1-6000. Second, washing the meatus and as much of the urethra as can be reached by a hand-syringe with a 4-per-cent. solution of boric acid. The syringe employed at this stage of procedure is either Guyon's or Janet's. The instruments employed for dilatation

are Kollman's or some of the other well-known dilators, which should always be covered with a rubber protector. The frequency of dilatation depends a great deal upon the urethroscopic findings. A safe rule is to dilate as often as the small fissures are healed. The amount of dilatation must also be governed by circumstances; the general rule is to dilate one or two numbers in the beginning. The duration is from three to five minutes. The extent depends upon the size of the urethra. When the morning drop has disappeared and the urethroscope shows a healthy urethra, the maximum of dilatation is reached and the patient cured. Now an occasional excessive glass of beer or sexual intercourse will not produce a return of the hitherto untoward symptoms.

The patient's general condition should be carefully watched; the author interdicts or positively prohibits the use of carbonated drinks, as experience has shown that they are all irritants to the genito-urinary organs.

The patient may take large quantities of water, or milk and water. Unless the patient has been in the habit of using stimulants, or requires them, he interdicts the use of alcoholics. He has never seen any cause to prohibit any of the easily digested foods. Care should be taken to avoid articles productive of intestinal irritation or constipation. Systematic exercise should be encouraged, and will prove a most valuable adjuvant.

There is no reason why a patient with chronic urethritis should abstain from bathing. When it is positively proven that the urethra harbors no more gonococci, sexual intercourse need not be prohibited.

Regarding time required for cure, the doctor regards each case as a law unto itself. Some patients are more rapidly cured than others, it depends a great deal upon general condition and circumstances.

Analysis of 150 Cases of Post-diphtheritic Paralysis of Accommodation

Dr. H. Coppey (Brussels) gives the analysis of 150 cases by Moll in *Arch. d'Ophthal.* (No. 2, p. 117, 1897), from the German of Prof. J. Hirschberg. Paralysis set in two to three weeks after the beginning of the diphtheria in the throat, lasted about four weeks, and always disappeared spontaneously. The degree of paralysis was not always proportionate to the intensity of the disease, and ranged from + 1 D to + 6 D for five letters at 24 ctm. (9 in.). All the cases except six presented a hypermetropia of 1 to 3 D. This was explained on the ground of childhood hypermetropia. More likely hyper-

metropes alone affected by accommodative paralysis sought the oculist, because the effects in their cases were more disturbing.

The onset is sudden, the recovery gradual. Rarely is there paralysis of the sphincter of the pupil. Moll has observed it only four times.

Accompanying paralyses were as follows:

1. Sixteen times paralysis was double and three times unilateral of the sixth pair. Diplopia must be tested for with colored glass.

2. Once a unilateral ptosis.

3. Once insufficiency of the right internal rectus with asthenopia in a chlorotic subject.

4. In the majority of the cases paralysis of the velum palati and the pharynx.

The fundus was always normal. H.

The Phenomena of Chromatolysis

One of the most actively studied pathological processes at the present time is that of chromatolysis. Van Gehuchten was one of the first to give this name to the phenomenon attending lesions of the ganglion-cells of the brain and cord in which the chromophyllic bodies, which are so conspicuous a feature in most of the cells, become broken down, and in their place a fine series of granules may be left. Another change accompanying this process consists in a swelling of the contents of the cell-body and at times a displacement of the nucleus to one side. In a recent contribution to this subject, *Bull. de l' Acad. royale de Med. de Bel.*, 1897, p. 805, Van Gehuchten makes a summary of his conclusions after a careful résumé of much of the recent literature as follows:

1. All pathological or experimental lesions to the axis-cylinder of a motor-neuron result in the phenomenon of chromatolysis of the cell of origin of this neuron, the intensity and the duration of the chromatolysis being in direct relationship to the intensity and duration of the traumatism.

2. Lesion of a peripheral nerve alone is not the only cause capable of producing chromatolysis. Such a process can follow in a number of conditions, which fact should be borne in mind in the interpretation of pathological conditions.

3. The section of the cellulipetal prolongation of a peripheral sensory neuron also results in chromatolysis of the cell of origin. This chromatolysis is more profound than that which is seen in a motor-cell; it is followed by the disorganization and disappearance of the corresponding cell.

4. The disappearance of the cells of the spinal ganglia, following section of their peripheral prolongations, is due, not only

to the lesion of this prolongation but above all to the lack of trophic action which stimulation from without produces upon these nerve-cells.

5. The nerve-cells in a nervous chain exercise the one upon the other a trophic action, the suspension of which produces a chromatolysis and disappearance of the corresponding cells.

6. The section or the lesion of a cellulifugal prolongation of the cells of the cerebro-spinal ganglia is not followed by profound chromatolysis, contrary to what is seen for the motor-cells. In the present state of our knowledge this fact remains inexplicable. J.

Acute Degenerations of the Nervous System in Diphtheria

J. J. Thomas (*Boston Med. and Surg. Jour.*, Jan. 27, 1898), in a paper on the foregoing, in which numerous cases are reported in detail, declares that the changes in the peripheral nerves are usually of the parenchymatous type, consisting of a degenerative process due to the presence of toxic products arising in the course of the disease, directly or indirectly from the micro-organisms producing the disease. These peripheral nerves undoubtedly show also, at times, that an interstitial process has been added to the degenerative one. Mention is made of smaller or larger hemorrhages into the brain and spinal cord, some researches describing processes which are considered to be a myelitis. It is due, probably to the effects of some such process as this, or to an inflammatory infiltration in the central nervous system that such diseases as multiple sclerosis following diphtheria are seen. More rarely, vascular lesions of the brain, embolism, thrombosis, or hemorrhage resulting in hemiplegia are met with. The cases reported in the paper do not cover all the changes of the nervous structures in this disease, but rather show the extent of the acute degenerative changes produced by it. L.

The Hypodermic Syringe and Its Use in Malaria

Dr. Kennon Dunham, in the *Indian Lancet* (Jan. 16, 1898), urges the necessity for using hypodermic injections of quinine in certain cases of malarial fever.

As malaria is undoubtedly caused by a parasite in the blood, it is only by extermination of this parasite that we can hope to bring about a cure for malaria.

Quinine has been proven to be the best drug in these diseases.

The parasite, after a certain number of

hours, undergoes segmentation, and it would seem that this is the time when quinine can do its best work. It frequently is necessary to administer extremely large doses of quinine, and it often occurs that certain idiosyncrasies make the patient intolerant of the drug, especially in large doses. It is in such cases that the author recommends the use of the hypodermic syringe. The form most suitable is the hydrochlorosulphate of quinine. It has given the best results and has the least drawbacks. It is soluble in equal parts of water. It has the strength of bisulphate, and is decidedly the least painful of all the quinia salts.

The hydrochlorate with urea is also soluble in equal parts of water, but is more painful. He usually prefers the hydrochloro-sulphate in a 50-per-cent. solution. The pain frequently lasts for an hour, and is easily tolerated, even by very nervous patients.

Injections are made into the deep muscles of the gluteal region, the cutaneous surface, having been previously rendered antiseptic and insensitive by washing with a 1:20 solution of carbolic acid. W.

Hepatitis from Intestinal Autointoxication.

Rovighi (*Morgagni*, No. 15, 1897) studied this subject in six cases suffering from severe intestinal disorders. Five of these patients died, having the symptoms of Laennec's cirrhosis. The other case improved under appropriate treatment.

By injecting indol, scatol, and phenol in rabbits and observing their action upon the liver and in general, he experimentally confirmed the clinical observations.

Acute poisoning with indol and scatol produces great dilatation of the portal vessels and the central vein; chronic poisoning, especially with indol, changes the cellular protoplasm, which appears more granular, with swelling or double nuclei and slight connective-tissue infiltration around the vessels, and in the intracellular spaces. In the epithelium of the renal canaliculi yellowish granulations appear; the spleen contains leucocytes, together with destroyed red blood-corpuscles.

In acute phenol-poisoning he observed marked congestion of the vessels of the liver; while in chronic poisoning slight alterations of the protoplasm of the hepatic cells, thickening of the walls of the peribular veins and slight infiltration of connective-tissue elements were noticed.

The experimental hepatic lesions observed are very similar to those existing in patients suffering from intestinal disorders, especially fecal stasis. Moreover,

urobiline is present in both instances. The lesions observed do not constitute a true interstitial hepatitis; but the alterations of the protoplasm of the hepatic cells, and the slight connective-tissue infiltration around the portal vessels and in the intercellular spaces, form the origin of Flanot's and Boix's mono- and intralobular cirrhosis. According to the author thus may be explained the production of hepatic cirrhosis without the influence of alcohol, malaria, tuberculosis, or syphilis. G.

The Relation of Insects and Rats to the Spread of the Plague

E. H. Hankin presents a short note in the *Centralbl. f. Bakt.*, No. 22, p. 437, 1897, on the relation of insects and rats to the spread of the plague. The author's cases showed that there was no necessary connection between infection of animals and outbreaks among men. J.

The Connection of Psoriasis with Gout and Diabetes

Dr. Karl Grube reviews the literature of the subject (*Berl. klin. Woch.*, XXXIV, No. 52, p. 1134) and reports nine cases of his own, where psoriasis coexisted with gout or diabetes, or both, and comes to the conclusion that a causal relation between those affections does undoubtedly exist. A point of great interest in the author's reported cases is the following: In most of the cases an acute gouty attack or an increase in the quantity of the excreted sugar would exert an unmistakably favorable influence on the psoriasis. Vice versa in one case, when the sugar was reduced to a minimum, the psoriasis became greatly aggravated. R.

Bacteriology of Scarlet Fever

The etiology of a certain number of the acute infectious diseases is still undetermined.

C. Seitz, in the *Münch. med. Woch.*, No. 3, 1898, undertook the study of twelve cases of scarlet fever. In eleven cases the results were entirely negative, in a twelfth streptococci were found which, however, probably had little to do with the trouble. The author also presents an analysis of some 800 cases from which he derives some interesting general propositions. Atmospheric conditions and the season of the year seem to exert no influence upon the disease.

The causes of death in the greater number of cases occurred from sepsis, nephritis coming second. The author controverts the opinion of those authors who hold

that the pseudo-diphtheritic membranous forms are true cases of diphtheria complicating the original throat difficulty.

In these cases, and in the general anginoid conditions, the author believes in thorough local antiseptics of the pharynx and tonsils; carbolic acid is recommended, even in the form of tonsillar injections. J.

Contributions to the Pathology and Pathological Anatomy of Akromegaly

This rare disease is daily receiving more attention. The following notes may be gained from Strümpell's contribution in the *Deut. Zeit. f. Nervenheilk.*, Vol. II, pp. 1 and 2. The patient was 23 years of age and suffered from amenorrhea, glycosuria, and great increase in the size of the fingers and toes, with pain. The nose was enlarged and the lips thickened. There was an increase in size of the lower jaw and of the clavicle. A gradual stupidity and laziness developed; also, general analgesia, some exophthalmus, later a leftsided hemianopsia, with atrophy of both optic nerves, headache, increased insensibility to smell, and paralysis of the rectus internus muscle.

The anatomical study of the bones showed an enormous development. There was a marked increase in the size of the pituitary gland. This tumor consisted in part of hypophysis-cells and in part of cells resembling a sarcoma. The increase in size of the toes and fingers consisted in a hyperplasia of the soft parts of the skin and subcutis. J.

Toxins in Dermatology

Dr. Hallopeau (*Ann. de Derm. et de Syph.*, Nos. 8 and 9, 1897), in a paper read at the Twelfth International Medical Congress, considers the effect of toxins in producing diseases of the skin. He divides them into exogenous, endogenous, and those of a mixed origin. Exogenous toxins, or tox-exogenes, as the author terms them, may be either of animal or vegetable origin; those of animal origin produce erythema, edema, vesication, suppuration, and sphacelus, and, as in the slate-colored eruptions of phthiriasis, sometimes eruptions of a special character. Toxins secreted by the acarus are probably the cause of the polymorphous eruptions of scabies, and intense pruritus. Urticaria following the ingestion of certain mollusks and some eczematous outbreaks are mentioned as forms of dermatosis due to the ingestion of animal tox-exogenes, although these occurrences are rare. As eruptions produced by injections of serum may be urticarial, morbilliform, or

scarlatiniform, injections of serum should be included among toxexogenes.

The toxexogenes may act directly upon the skin, or through the blood after absorption, producing erythema urticaria, vesicles, bullæ pustules, ecchymoses, and eschars. The action of toxins on the peripheral centers of innervation produces disturbances in vascular and trophic innervation of which the eruption is the result. The fungi concerned in the production of ringworm are especially pathogenic to the skin.

The production of pelade is attributed by Sabouraud to the bacillus found in seborrhea. Actinomycosis and Madura foot secretions are also pathogenic.

Several categories can be distinguished among the endogenous toxins. Such may be the result of the functions of cells, and may become hurtful through their production in exaggerated quantity.

Toxins of mixed origin are those produced by microbic activity, and the dermatoses connected with the action of such toxins are usually limited to the close neighborhood of the original focus.

Streptococci have a particular tendency to propagate themselves slowly, producing special phlegmasias by their toxins.

Other microbes, after being at first localized, produce secondarily phenomena of infection, which may be either local or general, then no pathogenic microbes are found, as the phenomena are due to the resorption of toxins. W.

Hematozoan Infections of Birds

W. G. McCallum, in *Centralbl. f. Bakt.*, No. 22, p. 440, 1897, describes what he terms a sexual process in some blood-parasites found in the crow. Two kinds are noted: Motile fusiform forms similar to Danilewsky's vermiculus were seen which were thought to be fertilized by the loosened flagella of the flagellated forms.

The author thinks that perhaps a similar phenomenon may sometimes be observed in malaria. J.

Pathology and Treatment of Gout

Dr. A. P. Luff's paper on this subject before the Harveian Society of London is briefly summarized in the *Brit. Med. Jour.* (Jan. 15, 1898, p. 150). He accounted for uric acid in the blood in gout by its absorption from the kidneys when their excretion of it is deficient. It is not normally produced in the liver, spleen, or tissues to be transported by the blood to the kidneys, because it is not found in the blood in healthy persons. The first step in the pathology

of gout was a failure on the part of the kidneys to perfectly excrete the uric acid formed in them. The part not excreted was absorbed into the circulation, first as sodium quadriurate. It was formed in the kidneys by union of urea with glycocine or one of the latter's derivatives. Lessened alkalinity of the blood did not cause deposition of urate, nor increased alkalinity their solution. Urines increased the glycocine in the liver.

In treatment personal factors needed attention. Elimination of the gouty deposit was effected by citrate of potash, copious draughts of water, hot baths, massage, and use of vegetable ash instead of table salt, and mixed diet with large quantity of vegetables. Waters were to be as free as possible from sodium. H.

The Significance of Presystolic Apical Murmurs

The *Univ. Med. Mag.* (Jan. 1898) says that many theories have been advanced in explanation of presystolic murmurs occurring in diseases of the heart other than mitral obstruction. According to Flint the presystolic murmur heard in aortic regurgitation is due to a functional narrowing of the mitral orifice, he contending that in affections of this disorder the left ventricle is so rapidly filled with blood that the mitral leaflets are floated away from the ventricular walls, and thus being brought into coaptation are thrown into vibration on the occurrence of auricular systole. Maguire suggests that in aortic regurgitation the anterior flap of the mitral valve by hanging between two convergent currents, both flowing into the ventricle, the one from the aorta and the other from the auricle, is thus caused to vibrate, the vibration being transmitted, as in other mitral murmurs, to the apex. Phear holds that it is possible to have the narrowing of the mitral orifice without contraction of the fibrous ring to which the valves are attached, and without gross organic changes in the valves themselves. It is generally recognized that one function of the papillary muscles is, by their contraction, to draw together the flaps of the mitral valves, and so aid in the closure of the mitral orifice, or in converting it into a mere slit. Similar tension may be brought to bear on the valves by conditions other than the contraction of the papillary muscles. As a result of endocarditis, chordæ tendineæ are frequently seen presenting a thickened and contracted appearance. The condition is also seen, apart from gross lesions of the mitral valve, under circumstances of strain, such as is produced by the cardiac hypertrophy of Bright's dis-

ease or of aortic valvular disease. In such cases, the author contends, the mitral valves may present a normal appearance, or by slight thickening may show evidence of the strain to which they have been subjected; but the condition is not necessarily associated with the slightest degree of organic mitral stenosis. With shortened and thickened chordæ tendinæ the mitral valves are held permanently in the position which in the normal heart they are made to occupy rhythmically by the contraction of the papillary muscles; this practically amounts to narrowing of the aperture, and, given a fair auricular contraction, will be attended during life by a presystolic murmur, although post mortem it may be possible to introduce as many fingers through the mitral orifice as in the normal heart. In the light of the foregoing observations it is clear that, while a presystolic murmur at the apex is highly significant of mitral stenosis, the sign cannot be regarded as pathognomonic of the lesion. In the diagnosis of mitral stenosis certain other signs, in addition to the murmur, should be sought for, particularly the extension of the area of cardiac dullness transversely beyond the right border of the sternum, and the accentuation and reduplication of the second sound at the pulmonary cartilage. The character of the murmur is also suggested. L.

Enlarged Prostate and Retention of the Urine

Dr. J. K. Cissell, in the *Louisville Med. Monthly* (Feb., 1898), gives a history of a patient suffering from enlarged prostate and retention of urine. He had been more or less troubled with the prostatic disorder for several years, but never had complete retention until the time he consulted the doctor.

For the relief of this the catheter was used, which in turn set up a cystitis. For its relief the bladder was irrigated with hot solutions of boracic acid.

As the cystitis was relieved a right orchitis began, after which the patient urinated better than he had done for twenty years previous. Apparently the inflammation of the testicle relieved the prostatic trouble at once. W.

Results of Haffkine's Anticholera Inoculations in India

Dr. Andrew Davidson, in the *Indian Lancet* (Jan. 16, 1898), reports the result of anticholera inoculation as practiced by him.

No deaths from cholera occurred for twelve months among the inoculated in Calcutta, excepting those which took place

within the first four days after the operation—the operation which seems necessary to establish the immunity. Within the period of 738 days covered by the reported observations, including the deaths which took place within the first four days, and those that occurred during the second year, the mortality of the inoculated as compared with the uninoculated living under similar conditions was reduced by 72.47 per cent.

Out of 5357 laborers, 2381 were inoculated and 2976 uninoculated. The inoculated furnished four, the uninoculated sixty deaths.

The protection afforded by inoculation does not seem to persist above a year or eighteen months. Whether it leaves the inoculated person with his original susceptibility to the disease unchanged, diminished, or exalted, has not been ascertained, but it is safe to assume that after the effects of the inoculation have passed the susceptibility returns to normal. W.

Trophoneurotic Eruption of the Extremities Resembling Dermatitis Repens

Dr. Freche (*Ann. de Derm. et de Syph.*, No. 5, 1897) reported a case before the Société Française de Dermatologie et de Syphiligraphie. The patient, a man 42 years of age, apparently in good health, had a disease of the hands which suggested the dermatitis repens of Crocker. Eight months before a brown spot appeared upon the nail of the right thumb, the skin about the nail became red and swollen, pus oozed from beneath the nail, loosening it. The disease spread to the palm, involving the thenar eminence. Next the little finger, then the index, the fourth, and finally the third were affected. Shortly the left hand also became involved. At the time the case was reported the palm and fingers of the right hand were devoid of epidermis, and were stiff, red and excoriated, smooth, and covered here and there with flat milium pustules, which discharged thick yellow pus.

The lesion was well marked by a wide border of macerated skin.

The nail-folds were bright-red, swollen, and painful, and surrounded about one and a half centimeters by patches. Flexion of the right hand was painful and all the nails had dropped. W.

Dr. Crequy says that the influence of the mind in producing urticaria is very great. One of his patients has urticaria every time he sees strawberries. A physician friend of his gets an attack of urticaria every time he hears the word (*La méd. Mod.*, VIII, p. 832). R.

SURGERY

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The Treatment of Spinal Caries

A. H. Tubby, of London (*Pediatrics*, Vol. IV, No. 4, p. 145), after considering the general treatment of spinal caries, refers to the principles of treatment direct to the spine, which are three in number: *a* To fix the vertebral column, and to place it in the best possible circumstances for healing. *b* To remove the weight of the upper part of the body from the diseased vertebrae. *c* To prevent, as far as possible, unnecessary deformity by supporting the trunk, especially in front; and if deformity has occurred, to limit its increase. To carry out these principles, two methods are at our disposal: Recumbency and the use of retentive appliances. These may be employed separately or in combination in individual cases, but can never be used indiscriminately, the precise value of each varying according to the age, stage of the disease, and the different regions affected. The indications for recumbency are:

1. In all acute cases in which there is considerable pain, distress, and impairment of the general health.
2. All weight must be taken off the affected region by transference of pressure from diseased to healthy spots.
3. When paralysis and abscess are threatened.
4. Particularly in cases of severe cervical and lumbar caries.
5. In those patients who become easily tired on their feet, and in those who, apparently well supported mechanically, frequently desire to lie down.
6. In children, recumbency may be resorted to with less danger to the general health than in adults.

As regards suspension, if the disease be above the fourth dorsal vertebra, suspension or support of both the head and shoulders is necessary, while if the disease be below it support of the shoulders alone is required. It is needful to insist upon this point, since one frequently sees cases of disease of the upper dorsal vertebra brought to the hospital with nothing but a jacket on, the resulting increase of deformity being inevitable. In the dorsal region the natural backward curve is aggravated by the erosion of the bodies, and when the disease lies between the shoulder-blades, they are separated from one another, the shoulders are displaced forward and the weight of the arms pulls the upper part of the vertebral column

rapidly forward. The idea is too prevalent that for spinal disease anywhere except in the cervical region a Sayres or poroplastic jacket is sufficient. All complicated arrangements are to be avoided in fixation and supporting appliances, the plaster-of-Paris jacket and to a considerable extent the poroplastic jacket fulfill the needful requirements. These must firmly fix the site of disease. In answer to the query When may treatment be dispensed with in spinal caries? the author replies:

1. The absence of pain is no test, since pain naturally ceases if a support be worn, but if pain ensues on removal of the support the jacket must be re-applied.
 2. When the spine is firmly fixed and the deformity has remained stationary for some months.
 3. If a recession of the deformity has been gained and maintained for some months.
 4. If a compensatory lordosis just below the kyphosis is well established.
 5. Dorsal caries is very rarely cured in one year; cervical and lumbar may require less.
 6. If the improvement in the general health is sustained.
 7. Supports must always be worn much longer in tubercular cases.
- If the support has been worn too long the muscles atrophy rapidly. In any case begin to dispense with the support gradually, especially if the patient be increasing in weight. L.

An Addition to the Pathology and Therapeutics of Congenital Luxations of the Femur

Karl Roser (*Pediatrics*, selection from *Deut. med. Woch.*, XXIII, p. 61, 1897) says that the characteristic walk of congenital luxation of the thigh and the lordosis may be referred to the fact that the center of gravity of the thorax lies anterior to the line of junction of the heads of the femur. The dislocated head finds no firm point for support, the abductor muscles have not the power to exert a leverage; the thigh and pelvis are therefore unable to support each other. As soon as the other leg is raised, the pelvis on the diseased side is lowered, and to compensate for this, the patient assumes the position of lordosis of the back. The author treats this luxation as he would a neglected traumatic one, splits the joint by an oblique incision anteriorly, forms a new acetabulum by means of the sharp spoon, reduces it in the usual way, stretching, however, both the capsule and the adductor muscles by adduction. As regards dressing and after-treatment, too little attention has thus far been given to the knee

and ankle-joints; the first is to be gradually flexed to its maximum extent; in the latter, the inclination to the formation of talipes equinus, on removing the bandages must be obliterated. The success of this method has thus far been encouraging. L.

A New Method for Producing Local Anesthesia with Cocaine

Dr. Otto Manz (*Centralbl. f. Chirg.*, 1898, VII, 177-181) describes a new method for producing local anesthesia, which consists in injecting cocaine so as to paralyze the various peripheral nerve-trunks, thus causing anesthesia over the whole of their respective distributions. With fingers or toes this is easy to accomplish, but in dealing with the whole hand or foot some time and patience are required. The method is as follows: An elastic ligature is passed around the member to be anesthetized, then with a hypodermic needle of a rather extra length injections are made on the peripheral side of the ligature and in the direction of the sensory nerves supplying the part to be anesthetized. The strength of the solution used was the 1-per-cent. solution, recommended by Braun, and from 0.05 to 0.06 gme. have been injected without the production of any toxic symptoms. From twenty to thirty minutes are required before complete anesthesia is developed, but it requires only from two to three minutes after untying the ligature for the sensibility to reappear. T.

Adenoids in the First Year of Childhood

Dr. H. Cuvillier (Paris) presented to the Laryngological Section of the Moscow Congress the following statements on adenoids as reported in the *Med. Week.* (Vol. V, No. 39, pp. 464 and 465.)

He has met sixty-four cases in children under a year old. The affection is congenital, aggravated by infection (local, as rhinitis, or, constitutional, as scarlatina).

The clinical evolution gives rise to functional symptoms which are peculiar to this age. The nasal obstructions cause respiratory and nutritive disturbances by inadequacy of respiration and nutrition, producing adenoid cachexy. Breathing is hurried and noisy and has an accompanying cough, often hard and paroxysmal.

Laryngo-tracheitis, laryngismus stridulus, spasm of the glottis, and emphysema may result and become increased during sleep. Coryza is constant, together with sneezing and sore nose. In nursing the child has to stop to breathe, or inhale milk into the respiratory tract and set up coughing. Thus, with insufficiency of food, inadequate respiration, and consequent an-

oxyemia, the infant's strength ebbs out and the cachexy is established. The chest may also become deformed by the dyspnea apart from rickets. The only way to examine the child's nasopharynx is by use of examiner's little finger; and even with it alone the most of the adenoids may be removed without anesthesia and mostly without pain.

The author prefers to other medical treatment the instillation of twenty drops into each nostril of a solution of menthol in oil 1:60, or resorcin, 1:50 or 25, dropping the solution by means of a special syringe.

H.

Traumatic Rupture of the Tympanic Membrane

Dr. William C. Braislin (*B'klyn Med. Jour.*, Feb., 1898) reports a series of cases of traumatic rupture of the tympanic membrane, and tells us that the subjective symptoms produced by this accident are: Pain, bleeding from the affected ear, impairment of hearing, tinnitus, and the history of trauma. These symptoms are also common to fractures of the petrous portion of the temporal bone, which lead through the middle ear and drum, and are usually present in fractures of the middle cerebral and occipital fossæ. Severe constitutional disturbance, however, is absent in rupture of the tympanic membrane alone. Consciousness is not disturbed. There are no symptoms of compression, though there may be some shock. Secondly, suppuration which may persist for some time may ensue.

The prognosis depends upon the state of the ear previous to the injury and the damage inflicted upon surrounding parts synchronously with the perforation. It may be confidently expected when the injury is limited to the membrane, and when no suppuration ensues, that treatment will restore the hearing power to a degree as good as before the injury.

The diagnosis is made on the history of the patient and the objective findings in the ear. The history of a severe blow against the external orifice of the auditory canal, followed shortly by the appearance of blood, and more particularly by the startling whistle imparted by air rushing through the newly made perforation on blowing the nose, when no whistle had existed before, gives evidence of the condition under discussion. The perforation-whistle may be absent, or only elicited with artificial inflation. Impairment of hearing is more or less marked and usually tinnitus is present.

Ocular inspection with head-mirror and speculum reveals blood, in recent cases, either dried in the canal or still liquid, and

a perforation of the tympanic membrane. In older cases no blood may be present if suppuration has supervened. In this case there is pus, or only a history of bloody discharge. No perforation may appear on examination, since if suppuration does not supervene, the perforation may have already healed; but dried blood will then appear on the walls of the canal, and perhaps at the line of rupture.

Little treatment is called for when the rupture is recent and suppuration is absent. If the ear is discharging pus, the treatment is that of acute middle-ear suppuration.

In nearly every case coming under the writer's observation the opposite ear has shown evidence of chronic non-suppurating middle-ear disease, offering indirect proof that a like process also existed in the other ear previous to the trauma. There is evidence to show that a perfectly normal ear is markedly resistant to the impact of suddenly expanding compressed air.

The author formulates the following conclusions:

1. The drum may be ruptured without direct impact of a foreign body upon the membrane, *i. e.*, by the expansive force of air condensed within the auditory canal.

2. A pre-existing middle-ear disease disposes to such traumatic perforations.

3. The presence of a middle-ear disease previous to the trauma is determined inferentially by the present condition of the opposite ear.

4. Prognosis regarding the healing of an uncomplicated perforation is good.

5. Severe tinnitus may be a result of labyrinthine concussion, and prognosis regarding the outcome of this symptom must be guarded.

6. Treatment is largely expectant until the perforation itself has healed.

7. In most cases, after this has occurred, additional treatment directed to the middle ear is beneficial. _____ G.

Differential Diagnosis, Pathology, and Treatment of Appendicitis

Dr. John B. Deaver (*Ann. Surg.*, Phila., 1898, XXVII, 303-328) says that the diagnosis of appendicitis in the majority of cases is easy, but there are exceptional cases where the proper conclusions can only be arrived at by a process of exclusion.

Movable kidney is to be differentiated as follows: In appendicitis there is more apt to be fever and increased pulse-rate, the rigidity of the abdominal wall does not involve such a large area, there is a circumscribed and acutely tender point, the tenderness is more superficial, and there is an absence of a movable tumor which readily

slips from between the examiner's fingers. Infectious catarrhal inflammation of the bile-ducts and ulceration of these ducts may occasionally simulate appendicitis. Biliary colic is to be differentiated by jaundice, absence of fever, peculiar color of the stools, finding of gall-stones in the passage and by the more severe and continuous pain, radiating usually from the chest-margin to the umbilicus.

Simple empyema of the gall-bladder is diagnosed by the onset, the location and character of the pain and tenderness, and by the area and degree of rigidity.

Acute phlegmonous cholecystitis and gangrene of the gall-bladder may be very hard to tell from appendicitis, but usually they may be diagnosed by the existence of more acute symptoms, more general peritonitis, by the rapid and shallow respiration, location of the pain and tenderness, and by the greater tendency to a rapidly fatal issue.

Perforated gastro-intestinal ulcers are diagnosed by predisposing age, history of previous gastric or intestinal disturbances, sudden acute pain in the epigastrium, followed by collapse, and lastly by the presence of bloody vomiting, or in the case of intestinal ulcers by the hemorrhage from the bowel. Perforation occurring in typhoid may be very difficult to tell from a concurrent appendicitis.

Extra-uterine pregnancy is to be told by the existence of the usual subjective signs of pregnancy, by vaginal examination, and by the absence of inflammatory symptoms prior to the rupture. Suppurating ovarian cysts and ovarian cysts with twisted pedicles, must also be thought of in making the diagnosis of appendicitis.

"A careful research into the manner of invasion of the micro-organisms has clearly demonstrated that they escape into and through the wall of the appendix, on account of erosion of the mucous membrane." An intact mucous membrane prevents the invasion. Micro-organisms have been demonstrated in all the coats of the appendix. The most common bacterium found was the *Bacillus coli communis*. "Streptococci and staphylococci were also found in a certain percentage of the cases to be the exciting factors in the production of the attack."

Early operation is the only treatment, in the opinion of the author, "upon which reliance may be placed for a definite and curative result in the vast majority of cases." The medical treatment of acute attack should consist in the administration of a purgative and the local application of cold. Morphine and opium are to be strictly avoided, except occasionally, when the pain is very severe, and then are to be given in con-

junction with a purgative. But "under the best directed medical treatment all that can be hoped for in any given case is temporary recovery." In surgical treatment early operation is to be instituted, and, when feasible, the appendix should be removed, even though surrounded by pus. In removing the appendix, it should be cut out of the cecum and the gut sutured, after the manner of any ordinary intestinal wound. T.

Deviation of the Umbilicus

Boulland (*Jour. de Méd.*, Jan. 25, 1898) states that, as is well known, a past pleurisy, especially when accompanied by a dense adhesion, is able to cause deviation of the sternum to the right or left of the middle line, according to the side affected. In the same way, deviation of the umbilicus may occasionally be observed in patients who have had a previous tuberculous peritonitis, for adhesions form inside the abdominal cavity as in the pleural. There is, however, this important feature in connection with the peritoneal condition, that such adhesions are liable to cause intestinal obstruction, therefore, deviation of the umbilicus may be of practical importance to the surgeon in determining where to operate in opening the abdomen. G.

The Great Omentum, with Special Reference to the Part Played by It in Inflammation of the Abdominal Viscera

J. G. Adami, of Toronto (*Phila. Med. Jour.*, Vol. I, No. 9, p. 375), regards the great omentum as a mechanism for supporting and keeping in position a rich arborization of delicate vessels separated by as slight a cell-layer as possible from the peritoneal cavity. With the branching of the main vessels, the finest and most delicate vessels are largely collected toward the periphery and along the free borders of the omentum, and it is here that the most prompt reaction is liable to occur. In appreciating the part played by the omentum in the economy, it is from this point that one must start. The author furthermore believes that it is from the abundant network of delicate vessels that an abundant flow of ascitic fluid arises, and that the rich system of contained lymph-spaces and lymphatic vessels, and indeed, of blood-capillaries, may be the means of rapid absorption of fluid from the same cavity. Referring to the reaction of the omental vessels in localized inflammations of the abdominal cavity, and the results of that reaction in the shape of omental adhesions, the author's observations being based on 150 autopsies in which the abdomen was ex-

amined, the attachments were found very common, and the evidence afforded of the rapidity with which the omentum appeared to apply itself to an inflamed area, becoming sympathetically the seat of inflammation, adherent by plastic, and later by fibroid adhesions, impressed itself upon him. There were eight instances of generalized adhesions, in cases of recent or old generalized peritonitis, and several of localized adhesions along the sites of operation-wounds. In a remarkable case of neglected gangrenous appendicitis, with suppurative thrombosis of the mesenteric vessels and retroperitoneal abscess, a large tag of the right border passed down between the intestinal coils to the hind wall of the abdomen, where it was adherent to the right of the root of the mesentery; upon separating the recent adhesions, abundant pus welled out from a retroperitoneal abscess, this tag having evidently prevented a general peritonitis. Again, the generalization of a suppurative process was arrested in another case, in which the right border pressed down into the pelvis and was adherent to the pelvic wall, forming the roof of a localized pelvic abscess. Of the localized adhesions discovered in connection with the different abdominal viscera, there were numerous examples of attachment to the intestines. That the omentum becomes adherent to organs so distant from the position in which it is usually found is an indication of what is scarcely sufficiently realized, that this delicate membrane must be constantly shifting its position, or at least, must, in cases of abdominal disturbance, be peculiarly liable to roll about. Normally, covering over the coils of small intestine, more especially above and to the left, it must, in its gyrations frequently apply itself to an inflamed area, its vessels becoming rapidly congested, serum and leucocytes exuding, and the first stage of adhesion set up. L.

Partial Resection of the Urethra for Stricture

Dr. Samuel Baumgarten (*Centralbl. f. d. Krankh. d. Harn- und Sexual-Organen*, Leipzig, 1898, IX, 119) says that though strictures of the urethra have been treated more or less successfully by such surgical procedures as urethrotomy and dilatation, the results thus acquired are only physiological, in that they tend merely to restore the normal caliber of the urethra and do not remove the diseased structure, and that therefore a long continuance of intermittent treatments with the sound is necessary to prevent recontraction of the cicatrix. Two operations are, however, possible which do

not require after-treatment; one is urethrotomy, which consists in establishing an opening back of the stricture into the perineum, and has its manifest inconveniences. The second is urethrectomy, which consists in the resection of the strictured portion of the urethra and the uniting of the separated ends with sutures.

Dr. Baumgarten quotes a case in which a bladder-stone, combined with a resilient stricture, made him resort to this latter operation. After removal of the stone and the strictured portion of the urethra, the cut ends were united and the wound packed with gauze. The patient made an interrupted recovery, and when seen twenty months after the operation no sign of the stricture could be discovered. T.

On the Regeneration of Pre-ganglionic and of Post-ganglionic Visceral Nerve-fibers

J. N. Langley (*Jour. of Physiol.*, Vol. XXII, p. 215, 1897) has conducted a series of experiments chiefly upon cats, in which the cervical sympathetics were severed, the vagus being left intact. His general conclusions are as follows: The regeneration of preganglionic fibers takes place by the formation of fresh terminations in connection with nerve-cells. In nearly all cases, so far as regards the cervical sympathetic, the different classes of pre-ganglionic fibers form their new endings in connection with nerve-cells of their own class and possibly in connection with the same nerve-cells with which they were originally connected.

Nevertheless, it appears that in certain conditions pre-ganglionic nerve-fibers are able to form endings in connection with nerve-cells not belonging to their own class, so that, for example, pupillo-dilator nerve-fibers may become united, during regeneration, with nerve-cells which send their axones to the erector muscles of the hairs.

And it appears that the post-ganglionic nerve-fibers ending in any one tissue can, if any opportunity be afforded them during regeneration, readily form nerve-endings in connection with any other visceral tissue, so that, for example, pilo-motor fibers may form nerve-endings in the iris and become pupillo-dilator fibers. J.

Research over the Effect of the Röntgen Rays on Tuberculosis

Dr. Richard Muehsam (*Deut. Zeit. f. Chir.*, Leipzig, 1898, XLVII, pp. 365-379) writes that according to Koch tubercle bacilli die when placed in direct sunlight, for a length of time varying from a few

minutes to several hours. This statement led to the thought that perhaps the Röntgen rays might have a like action on these same bacilli, and probably a more decided one. According to a research by Rieder, lately finished, the X-rays when sent through fresh cultures of tubercle bacilli and a variety of other micro-organisms, either stop the growth entirely or greatly diminish its rapidity. Dr. Muehsam then gives an elaborate list of experiments on animals which were carried out in a careful and detailed manner.

Following this is the partial history of two lupus patients who were being greatly benefited by the X-ray treatment. The author believes that while the Röntgen rays will not completely stop the progress of a general tuberculosis, they will to a large extent hinder the ravages of a local tuberculosis. The Röntgen rays exercise an influence on human lupus, but whether they are capable of producing a complete cure only time and further investigations will tell. T.

The Radical Treatment of Carbuncle

Dr. Carl Beck (*Clin. Rec.*, January, 1898) describes his method of radical cure for carbuncles, and says as the infiltrated tissues must be eliminated at all hazards, be it infected by whatever bacteria, it is better to sacrifice it at once, and to remove it with its disastrous inhabitants. This surgical principle is adhered to in other surgical diseases and there is no reason why it should be abandoned in carbuncle. The results obtained by excision, no matter what bacteria caused the infection or whether constitutional disease was present, were extremely gratifying.

The technique of the operation as performed by him is as follows:

After local or general anesthesia and thorough antiseptic applications, the infiltrated mass is caught by a Muzaux forceps. An incision is made around the margin of the reddened area and carried down to the deeper tissues. The whole mass is rapidly severed from the underlying tissues. Hemorrhage, which is not excessive, can be checked by packing with iodoform gauze. A gauze dressing saturated with a strong solution of bicloride of mercury is employed until the wound granulates.

The immediate effect of this method is simply surprising. The general disturbance, the pain, fever, and delirious state of the patient disappear at once. Even if performed without an anesthetic, this method is less cruel than the method of crucial incision, and the patient does not require any further operative interference, as when the latter method is employed. W.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

Pregnancy in a Rudimentary Uterine Horn, with Rupture and Death; Probable Migration of Ovum and Spermatozoid

Cullen and Wilkins (*Johns Hopkins Hosp. Rep.*, Vol. VI, 1897) report the case of a married woman, 29 years of age, who had previously borne a child and died in the fourth month of pregnancy, with signs of hemorrhage. Death occurred six hours after rupture of the fetal sac. Upon post-mortem examination the abdominal cavity was found to contain 4000 c.c. of blood and a fetus of three or four months' development. The uterus consisted of a well-developed right horn, to which was attached by a muscular band an impregnated left rudimentary horn. The latter had ruptured, and the corpus luteum was found on the side opposite to that of pregnancy. Microscopically, the right well-developed uterus was shown to possess a typical decidua, and the right tube contained the remains of the placenta, lying free in its cavity. The cells of the corpus luteum resembled closely normal decidual cells.

The pedicle joining the two horns contained a canal 5 mm. in diameter, lined by a single layer of cylindrical epithelial cells resting on a delicate stroma, external to which was a longitudinal muscular coat, and covering this in turn a coat of circular muscular fibers. The canal was closed at both ends, and there was no communication between the two horns. Migration of the ovum and spermatozoid occurred probably by way of the abdominal cavity. The writers state that cases of this kind are rare, rupture usually taking place between the fourth and fifth months, and the patient dying with signs of internal hemorrhage. Some, however, advance to term, and two classes can be established:

1. Those attended with rupture.
2. Those in which rupture does not take place.

Anatomically, these cases differ from those of tubal pregnancy, in that the uterus is flexed toward the side opposite to the pregnancy, in that the pedicle of the fetal sac springs from the uterus at the internal os instead of where the tube comes off, and in that the round ligament springs from the outer side of the sac instead of from the uterus. Clinically, the symptoms of tubal pregnancy and of pregnancy in a rudi-

mentary uterine horn, when rupture has taken place, are virtually the same. On examination of the uterus, however, the sound reveals that in the latter case the canal is fixed at the internal os, and the uterus deviates to the side away from the tumor. The pedicle of the sac commences at the internal os instead of at the uterine cornea, and is usually of sufficient length to allow free mobility of the impregnated rudimentary horn. Migration of the ovum and spermatozoid occurs frequently when the impregnation of a rudimentary horn takes place. L.

The Uterus and Gall-stones

J. Cornillon (*Le Progrès méd.*, 1897), has found that an intimate relationship exists between the uterine functions and biliary disorders. If a menstruating woman complains of nausea and pains in the back and right hypochondrium, if the uterus and adnexa are healthy, cholelithiasis should be thought of, even if no icterus is noticeable. The author believes this condition not explicable on reflex grounds, but to be the direct consequence of the hyperemia of the abdominal viscera attendant on the menstrual nixus. On the other hand, the presence of gall-stones may exert an untoward influence on the catamenial discharge, attacks of biliary colic interfering with the regularity of the periods. During pregnancy and while nursing, the attacks of colic are decreased in frequency, only to return with renewed violence after weaning. At the menopause hepatic colic is often accompanied by uterine hemorrhage, and finally, operation on the uterus seems to predispose to biliary difficulties or to induce the recurrence of former attacks. J.

Erysipelas Following Childbirth; with Remarks on the Relation of Erysipelas and Puerperal Fever

C. Gentsch (*Cleveland Med. Gaz.*, Jan. 1898) recites the history of a case of the above. Labor was normal, but delivery was hastened by forceps because of the nervous and overwrought condition of the patient. On the sixth day after delivery the patient suddenly developed a temperature of 104° and pulse 130, the lochia being normal in quantity and no tenderness present. The same general condition of temperature, pulse, and low nervous tone continued for six days longer, intra-uterine injections even having apparently no effect upon the conditions presenting. Some swelling of the left labium majus was observed at this time, as though cellulitis were developing, the small laceration of the

fouchette being apparently healed. Two days later, the cellulitis of the vulva had extended downward and backward around the anus and upward over the lower section of the sacrum, indicating most plainly streptococcic infection. As the area of erysipelatous inflammation extended, blebs filled with sanguinolent fluid formed and broke, leaving abraded surfaces extending beneath the skin proper and resembling bed-sores in many ways, though not so deeply cupped. The erysipelas extended finally over the entire body, reaching the top of the sternum in front and covering the cervical vertebræ behind, and downward encircled the entire surface of both thighs. In the second week of the disease four abscesses developed—one over the outer aspect of the right thigh, three over the trapezii muscles, one on the right and two on the left side, all located well beneath the skin and cellular tissue. These abscesses had each a nuclear body similar to the "core" of a boil or of a carbuncle, from the largest of which about two ounces of pus were evacuated upon incision. After the abscess-cavities were thoroughly washed out with corrosive sublimate and hydrogen-dioxid solutions, the cores or sloughs were removed readily, the cavities then losing all appearance of virulence. In the meantime, germicidal remedies were addressed to the alimentary canal. Injections of aseptolin were also given without marked result. The use of Marmorek's serum was also thought of, but as it would have been a difficult matter to have obtained a reliable preparation it was not used. The author, in detailing the foregoing case, desires merely to hint that conditions most fruitful of active mischief in the non-puerperal, become greatly increased in intensity and are far more difficult to combat successfully in puerperal patients. Statistics applied to puerperal states and their mortality prove in a general way that the vital powers are lowered during gestation and in the puerperium, and that a greater mortality occurs during these periods from attacks of intercurrent diseases. L.

Ectopic Gestation

Dr. Paul Swain (*Edinb. Med. Jour.*) believes the pathology of ectopic gestation to be simply a loss of cilia from the tube, allowing the ovum to adhere and giving the spermatozoa access. The primary locality in all cases is the tube. The varieties of the tubal gestation are the interstitial, the Fallopian, and the tubo-ovarian. Of these the Fallopian is by far the most common. The interstitial is the least common but the most serious. Sooner or later, in all cases,

the tube ruptures. Those cases which go over the fourth month usually go to term either in the broad ligament or in the peritoneal cavity, when the placenta may remain in the tube or be attached to some neighboring viscus. Rupture takes place in one or two ways, either between the layers of broad ligament, or into the abdominal cavity, that is, either intra-peritoneally or extra-peritoneally. If it occurs in the peritoneal cavity, it is almost always fatal, unless there is immediate surgical aid. If between the layers of the broad ligament it may develop to full term; be absorbed as a simple hematocele after death of the ovum; suppurate and discharge by the bladder, vagina, or rectum; or remaining quiescent terminate by mummification or lithopedion-formation; and lastly, by a second rupture, the fetus may be extended into the peritoneal cavity. Primary rupture usually occurs before the twelfth week. The diagnosis is by no means easy, but may be made by the well-known signs and symptoms. It is impossible to diagnose tubal pregnancy before rupture, and in some cases not even after rupture. The only treatment recommended is celiotomy. In cases of free hemorrhage with collapse operate at once. Here intravenous saline injections may be of great service. S.

Reflex Neuroses in Women

J. N. Upshur, of Richmond (*Med. Reg.*, Dec. 15, 1897), calls attention to those nervous troubles in women, functional in character, yet of such a nature as to be the cause of serious alarm often to both patient and friends. The errors in the forms of education of girls which now obtain, by which the brain is cultivated at the expense of the physical well-being, no attention being paid to conservation of nervous force and influence at the time of menstruation, lay the foundation for amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia, and other ills, which the utmost skill may require years to relieve. Great difficulty is frequently found in relieving the girl of conditions of chlorosis, attended by nerve-tire indicated by indisposition to exertion, headache, loss of appetite, constipation, cardiac palpitation, etc. In some instances, especially if there be the factor of heredity, acute mania or dementia may result. Relief can only come from removal of the cause and the administration of nervines and anodynes simply as palliatives is to be condemned. Conditions of obstinate headache or perverted sensations about the head are not uncommon, but not traced commonly to the condition of which they are only reflex symptoms. At the time of the

climacteric, or as the woman approaches that period, certain phenomena arising may or may not be due to uterine disease. In young girls, should a short term of systemic treatment fail to relieve, careful examination for local lesions should be instituted. Even violent hysterical convulsions at period have been known to disappear by the healing of a little granular abrasion of the os uteri. The relief of a symptom shrinks into insignificance in the presence of the demand for security to life itself, by the presence of a condition demanding formidable surgical interference. Reflex vesical trouble is a common experience, and often a malady persisting after most earnest and skilful effort for relief; when such relief comes the reflexes may develop in some other direction. The fact of ocular irritation and strain as a reflex of uterine derangement is familiar to the specialist, as is the prompt relief from appropriate treatment. Even the skin is not exempt from these reflex vaso-motor disturbances, urticaria, eczema, and special conditions of the sweat-glands illustrating this condition.

L.

Parturition During Paraplegia

Routh (*Trans. Obstet. Soc., London, 1897; Edinb. Med. Jour., Feb., 1898*), in an exhaustive treatise on the subject, relates a case now under his care. The patient, a multipara, when about seven months pregnant, met with an accident which produced immediate and complete paraplegia. For the week following there was complete absence of the usual passive uterine contractions, which, however, subsequently gradually returned. Labor commenced after two months, on the two hundred and sixty-first day of gestation. The first stage lasted ten hours, the second two and one-quarter hours, the placenta being expressed (?). During the pains a mere feeling of "tightness" was experienced, which was painless. On the head passing over the perineum the patient cried out, although no painful sensation was felt. Uterine contractions, as evidenced by palpations, were not so well defined as normal, being more or less constant, with intermittent aggravations. Post-partum contraction was feeble for several hours, though no undue hemorrhage was present. Involution of the uterus and lactation were normal. The patient died six months later, and a complete post-mortem examination of the pelvic organs and spinal cord was made. After reviewing the physiology of parturition and recorded cases of similar conditions, along with the secondary questions of conception and lactation during

paraplegia, the author considers that the following views may legitimately be accepted:

1. That in pregnant women with paraplegia, labor may be apparently normal, both as regards the period of its onset and its mode of completion, but without the sensation of pain:

2. Involution and lactation are normal.

3. Conception may take place during paraplegia.

L.

Artificial Sterility—A New Operation

In such cases as those in which an inevitable necessity exists for securing artificial sterility, a new operation designed to prevent conception has been devised (according to an editorial note of *Med. Age*, Vol. XVI, No. 4) by Professor Kehrer, of Heidelberg. The operation, appearing to be less severe than castration, presents some advantages. Kehrer incises the anterior vaginal wall in the median line, from the tubercle found at the orifice of the urethra up to the os uteri; in this way gaining access to the vesico-uterine cavity, he draws the fundus of the uterus into the wound and divides the ovarian tubes between ligatures, and obliterates the stumps by means of catgut sutures. He then performs vaginal hysteropexy immediately above the inner orifice of the os uteri. The grave abuse to which this operation may be put should make it an expedient which, like Cæsarian section or accouchement forcé, should only be resorted to in extreme cases upon mature deliberation and after consultation with the best authorities available.

S.

Anomalous Uterus

Gustave Richelot reports in *Bull. méd.* (Feb. 20, 1898, No. 15, p. 165) that in February, 1897, a girl of 19 came to him stating that since June, 1896, she had had uninterrupted menstrual flow. In the Rothschild Hospital curetting and rest stopped the flow for a fortnight. Its recurrence led to finding, on examination, a tumor on right side, in a pelvis free from tenderness. This tumor was supposed to be either fibroid or appendages. Exploratory operation revealed a one-horned uterus, the other horn and adnexa being absent, as well as the round ligament of that side. The tumor was the uterus itself, otherwise normal; but the broad ligament of the undeveloped (right side) was disproportionately narrowed so as to draw the normal left side of the uterus to the right and cause it to resemble a tumor by its displacement. Thorough curettage was done and careful drainage, and the abnormal flow was stopped.

H.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Largin—A New Organic Compound of Silver

Dr. C. Pezzoli, of Vienna, has investigated this new compound and its bactericidal effect on the gonococcus (*Wicner klin. Woch.*, Vol. XI, pp. 260-265). Largin is a combination of silver with a new organic compound, resulting from the splitting up of one of the paranucleoproteids. It is a grayish-white powder, very light, very soluble in water, glycerin, blood-serum, albumin, alkali, and acid albumens, and in solutions of peptone. It contains 11.1 per cent. of metallic silver (argoron contains only 4.2 per cent., protargol 8.3 per cent.). Watery solutions are not precipitated by chlorides.

Experiments with the gonococcus have shown that a solution of 1:4000 kills most of the gonococci in five minutes, and every one of them in ten minutes. In this respect it excels all the known albumin combinations of silver, and is therefore at least equal to any anti-gonorrheal remedy at present in use. It penetrates into dead organic tissue much deeper than any of the known silver compounds. R.

On the Action of Spermin in Diabetes

Dr. A. Telnichin reports in the Russian medical journal *Vratch* (Vol. XIX, No. 11, p. 333) his personal experience with spermin. In 1893 the doctor met with a severe accident in a railroad collision. Three weeks after the accident he began to show unmistakable evidences of severe diabetes: intense thirst, losing of flesh, great weakness and a very large amount of saccharine urine. The quantity of urine in twenty-four hours was from 3000 to 4000 c.c. (6 to 8 pints), and the percentage of sugar was from 2 to 2 1-2 [i. e., from 60 to 100 gme., or from 2 to 3 1-2 ounces]. All the known remedies, such as lithium salts, Carlsbad salts, sodium salicylate, phenol, iodine, pancreatin, antipyrin, quinine, guaiacol, and *Syzygium jambolanum*, etc., were tried in succession, but with very little or no results. The best results seemed to be given by the last two remedies (guaiacol and *Syzygium jambolanum*), but they were temporary in character. The doctor's attending physician, Dr. Litkin, then recommended the subcutaneous employment of sperminic fluid. In three weeks there was a very evident improvement. There was an increase in strength, the mental faculties became

brighter, the difficulty in defecation and urination became less, and at the end of three months the daily quantity of urine fell to five pints and the percentage of sugar to 1 1-2 per cent. The sperminic fluid employed was prepared personally by the author and by the attending physician, Dr. Litkin, from the testicles of bulls and dogs. After many experiments they succeeded in preparing a perfectly clear transparent fluid, which in hermetically sealed bottles keeps for three months, without the addition of glycerin or phenol. It is three years now since the author began the employment of sperminic fluid, and he says he "lives" on it; he uses it for two months at a time, making daily injections; he then stops it for two or three months, but at the end of the third month the severe symptoms begin to return, he begins to feel weak, thirsty, etc., so that he must recur to the sperminic injections. The author says that he is certain that the beneficial effects of the sperminic fluid are real and not due to auto-suggestion. Concerning the diet, the author convinced himself by repeated examinations of his urine that complete eschewing of starchy food had little effect on the quantity of sugar. Preserves, candy, and sugar, on the contrary, had a distinctly unfavorable effect; in all cases where sweetening is required, the author uses saccharin, from which he has observed no injurious after-effects whatsoever. Otherwise he does not restrict himself in his diet. In conclusion, the author reports briefly four cases (one of neurasthenia, two of locomotor ataxia, and one of senile impotence) in which the injections were employed with favorable results (at one time the author tried Poehl's spermin, but the action seemed feeblor, and besides it was too expensive for him). R.

Silver Nitrate in Typhoid Fever

Dr. Arnaudet states (*Gaill. Med. Jour.*, LXVIII, p. 169) that for several years he has employed silver nitrate in typhoid fever as an intestinal antiseptic with encouraging results. During the past year he has employed it in thirty-nine cases, with only three deaths. Aside from the complications noted in these three cases, the author observed scarcely any but an abscess of the ear in a 5-year-old child, and serious bronchial symptoms in a young man. In fact, there were very few complications, either remote or early, and ordinarily, in spite of the grave aspect in the beginning, the progress of the fever was regular and simplified. One of the first and most striking effects was the suppression of the diarrhea, and consequently there was little or no disten-

sion. The disappearance of these two symptoms is, the author thinks, very important, for it indicates a better condition of the intestine; it indicates also that the infection has been reduced to a minimum and that the complications involving the peritoneum, the lungs, or the brain are less to be feared, as well as the high temperatures which endanger the life of the patient. Sordes of the mouth or dryness of the nostrils were seldom observed; on the contrary, the nasal fossæ and the throat remained free and the tongue moist. The temperature, after having reached or exceeded 104° F. before this treatment was begun, fell to 102.1° and then to 102.2° . Generally, the duration of the disease did not exceed three weeks; four times it ran its course in from five to six weeks, twice in alcoholic subjects and twice after relapses. In one case the defervescence was complete before the fifteenth day. Regarding convalescence, in the majority of cases it was very decided, and the return to health was almost without transition, especially in those who had been able to take a milk diet. From these facts the author formulates the following clinical impressions: (1) In the average cases recovery was obtained with a remarkable facility from the use of the silver nitrate; (2) in the majority of the grave cases the disease was modified and simplified, and reduced to the average type, and recovery obtained; (3) in the very grave cases, even with hemophilia, the patients were more likely to recover by this method than by any other in the author's knowledge.

The mode of treatment is as follows: In the beginning, a saline purgative is administered, and immediately afterward the silver nitrate. From 2 to 3 grn. are given during the twenty-four hours to adults, in pills containing 3-20 of a grn., one or two being given every two hours. As these pills decompose rather quickly, only a quantity sufficient for two or three days should be prescribed at a time.

Even during convalescence and until recovery is complete, the author gives first six, then three pills a day. In addition to this treatment, all the patients took 15 grn. of quinine sulphate until the temperature fell, which, according to the author, was a useful but insufficient measure, as the results he obtained with the systemic employment of silver nitrate proved. Coffee and milk in abundance were given. Arnaudet considers the silver nitrate a very inoffensive antiseptic, and states that to its antimicrobial properties may be added another, and perhaps very important one, particularly in typhoid fever, that is, the elective action that it exercises on the lower part of the small in-

testine, which is the principal seat of the lesions, and also on the large intestine. The author also states that this drug has given him good results in many other affections besides typhoid fever, notably in the majority of the diseases of the gastro-intestinal tract and its adnexa.

Severe Intestinal Catarrh Treated with Ichthyol

Dr. M. Lange (*Allg. med. Centr. Ztg.*, No. 3, 1897) reports having used ichthyol in four cases of severe intestinal catarrh that were clearly due to infection of the affected mucous membrane of the intestines. In all of these cases the remedy acted with excellent effect. No pernicious effect was ever observed to follow its use, and it was found to agree with every form of diet. It was always very serviceable in many cases of intestinal catarrhs and in all cases of chronic rectal catarrhs and hemorrhoidal affections having a great tendency to tympanitis and fetid dejections.

Therapeutic Properties of the Thyroid Gland

Thyroid extract has, like all new therapeutic agents, been credited with specific action in numerous and varied pathological conditions. The number of different diseases in which cures have been claimed has, however, gradually dwindled, until now beneficial results are sought only in those disorders the pathology of which shows an absence of or loss of function in the thyroid gland itself. Dr. J. T. Eskridge, in the *Colorado Med. Jour.* (Vol. IV, No. 3), has made a careful résumé of the literature of the subject, with the result of finding that positive beneficial results follow the administration of thyroid extract only in cases of myxedema and cretinism; this coincides with his own experience.

In these conditions, however, the action is sure and rapid. U.

Anitin and Anitols

Prof. Loeffler, *Deut. med. Woch.* (Vol. XXIV, No. 10, 1898), has made extensive experiments with the above-named preparations, which have been discovered by Helmers. Anitin is obtained from a hydrocarbon containing 10 per cent. of sulphur, treated with concentrated sulphuric acid, then neutralized with ammonia and precipitated with alcohol. When dry it appears as a brownish-black, extremely hygroscopic powder, soluble in water in every proportion. If combined with insoluble products anitin has the property of rendering them soluble. These preparations are then known as anitols. Prof. Loeffler

studied especially the anitols obtained from the aromatic group, phenols, cresols, ethereal oils, camphors, and iodine. The author found that while anitin alone exerts, like ichthyol, a bactericidal effect upon diphtheria and anthrax bacilli, and streptococci only, the compound "meta-cresol-anitol" (40 per cent. meta-cresol and 60 per cent. anitin) destroys all pathogenic germs with great rapidity. A 1-per-cent. solution of this preparation equals a 3-per-cent. solution of carbolic acid as a germicide, while a 3-per-cent. solution of meta-cresol-anitin kills all cultures almost totally in less than a minute. A 5-per-cent. solution destroys virulent anthrax spores in thirty-six hours. As a 1- or 2-per-cent. solution does not affect the tissues, meta-cresol-anitol is indicated as a disinfectant for the hands as well as wounds. Prof. Loeffler recommends it in ozena, having treated fifty cases with excellent results. Experimental diphtheritic processes abated quickly under the use of a 3-per-cent. solution of the same preparation; this suggests its local application in diphtheria. S.

Methylene-blue in Diabetes Mellitus

Estay (*Bull. gén. de Thérap.*, 1898, No. 2) has used methylene-blue in two cases of diabetes mellitus, in average doses of 0.3 gme. (5 grn.) daily. In one case, after a treatment of five weeks, all the subjective symptoms were relieved, and the glucose reduced to a mere trace. In the second case, in which the urine contained from 28 to 30 gme. (say 1 oz.) of sugar per liter (33.8 fl. oz.), the saccharine content was reduced to 5 gme. per liter after a treatment of four weeks.

Iodothyrene in the Treatment of Goiter

This treatment (*Revista de Laring., Otol. y Rin.*, No. 11, 1897) has been used in four cases of goiter in Poucet's clinic. Following Bowman's suggestion the dose employed was 30 ctg. per day during extended periods, varying from one to three months.

In three of these cases, subjects from 12 to 18 years of age, who presented small recent fleshy goiters, which were accompanied by intense respiratory symptoms, the medication caused a rapid disappearance of the dyspnea, which was the most pronounced symptom, and it acted more slowly upon the goiter, but sufficiently for the three subjects to have ceased all treatment after being five months under observation, and they are considered to be completely cured.

The fourth case, a subject 24 years of age, who had a large goiter of long standing, of soft consistence, without respiratory

symptoms; the administration of iodothyrene continued for a longer period than in the other cases cited, produced no amelioration of the condition. Therefore, Poucet practiced a partial thyroidectomy, thereby removing a lobe weighing 270 grammes, which was followed by a perfect and complete cure. The author believes that in large, fleshy goiter of long standing, as well as in the cystic forms, the only treatment which will be beneficial is their removal by surgical means. G.

Permanganate of Potassium in Opium-poisoning

Dr. L. N. Grosvenor, *Med. Era* (Dec., 1897) gives the following directions:

1. When you find that opium, or any of its alkaloids has been taken, give a hypodermic injection of a solution of 10 grn. of permanganate of potassium to the ounce of water, at short intervals.

2. Wash out the stomach twice with clear water, keeping washing for chemical examination.

3. Wash out the stomach with a solution of permanganate, 2 grn. to the pint of water, until washings come back pink, retaining the solution one minute each time.

4. Give a glassful of solution of the potassium permanganate, 10 grn. to the pint of water, every half-hour till recovery.

If patient is unable to swallow, use the stomach-tube with a large lower opening, and through the nose if necessary. Do not forget your rectal speculum (for dilatation of rectum); it may be of great benefit at critical moments.

In case of failure of heart and lungs, use artificial respiration and your hypodermic of strychnia.

The permanganate of potassium is not a poison, but is a local irritant; therefore use a large quantity of a weak solution, rather than a small amount of a strong solution. S.

Malt Extracts

Dr. John G. Spenser, Professor of Chemistry and Pharmacology in the Cleveland College of Physicians and Surgeons contributes to the *Cleveland Jour. of Med.* (March, 1898) an interesting report of his analyses of several makes of malt extracts. He thinks that the great variation in digestive power of many extracts of this kind, their thick, gummy consistence and their unsightly turbidity have caused many medical men to abandon their use. Some makes of malt extracts that give good or fair results for the plain product are very poor when cod-liver oil is present, indicating that an

prior grade of malt has been used. The following results on eight samples of extracts decided his judgment in favor of the one he has named. The rest he left unnamed for obvious reasons. The number of grammes of converted starch from one gramme of malt, shown in this table, graphically portrays the high digestive value of the first three.

	GRAMMES MALT.	GRAMMES STARCH.
{ Maltzyme, plain	1	4.902
{ Maltzyme, plain	1	5.102
{ Maltzyme, with cod-liver oil.	1	3.572
{ A malt extract, plain.	1	2.659
{ Same, with cod-liver oil.	1	0.250
{ Another malt extract.	1	2.273
{ Same, plain.	1	0.433
{ Same, with cod-liver oil.	1	0.489

His method of making the determination is as follows:

1. A 1-per-cent. mucilage is prepared from perfectly dried potato-starch or arrow-root (other varieties of starch are not adaptable) by triturating the starch with cold water, then pouring it into boiling water and boiling thirty minutes, allowing to cool and filling up to the required volume with water.

2. A 1-per-cent. aqueous solution of the malt preparation.

3. An aqueous solution of iodine in iodide-of-potassium solution, representing 0.1 grn. iodine and 0.2 grn. iodide of potassium in 100 c.c.

Procedure: 50 c.c. of the starch mucilage are measured into a flask and heated to 55° C. in a water-bath; then the 1-per-cent. malt-solution is run in from a buret, again placed in the water-bath, and after ten minutes a few drops of the contents of the flask tested on a porcelain test-plate (or a glass plate, placed over a piece of white paper), with a drop of the iodine solution. Should it give a blue color more 1-per-cent. malt-solution is added, again warmed and tested after ten minutes. The blue noticed at first is replaced by a violet, and finally by a red, denoting the conversion of the starch to erythrodextrin and achroodextrin.

By following this plan any person can demonstrate to his own satisfaction which malt extracts are most reliable.

Gastric Ulcer Treated by Large Doses of Bismuth

In a recent meeting of the Manchester Therapeutical Society, Professor Dreschfeld presented a communication on the above subject. After pointing out (*Brit. Med. Jour.*, March 12, 1898) the inconveniences and dangers of using the stomach-tube in cases of gastric ulcer, he stated that

he had obtained excellent results by giving large doses of bismuth by the mouth in cases where the ordinary doses had not proved successful. Doses of 30 to 40, or even 50 grn. of bismuth subnitrate were given three times a day suspended in water. Under these pain was rapidly relieved, vomiting ceased, digestion improved, allowing light nitrogenous food, such as fish or fowl, to be given, and the ulcer quickly healed. In acid dyspepsia it rapidly relieved the symptoms. In neurasthenic conditions, with symptoms resembling those of gastric ulcer, it also had been of great service. Two cases of gastric ulcer, which were not relieved by large doses of bismuth, given by the mouth, were cured by injecting the bismuth into the stomach after lavage. G.

Cocaine Applications in the Pharyngeal Hyperesthesia of Phthisis

Dr. A. Berthier states (*Sem. méd.*, XVIII, p. 10) that topical applications of cocaine are very serviceable for controlling the pharyngeal hyperesthesia occurring in tuberculosis, which is a constant cause of nausea, regurgitation, and vomiting, at every attack of coughing, whereby the nutrition of the patient is interfered with. The best results were obtained by a 2-per-cent. solution of the hydrochlorate on a piece of lint or absorbent cotton, the application being made to the fauces twice daily, and just before an attack of vomiting is anticipated. This treatment effects the entire and permanent disappearance of the hyperesthesia in three or four days, when the applications are also suspended, only to be renewed if necessary. F.

The Employment of Dover's Powder

In the so-called rheumatic diseases, says Liégeois (*N. Y. Med. Jour.*, No. 1006, p. 374), the sudorific and sedative action of Dover's powder may be made use of in the following manner: The patient remains in bed, wears a flannel gown, and is covered with blankets. If it is an ordinary case in adults, ten grains are given in three doses at hourly intervals. As soon as perspiration sets in it is well to give a very hot aromatic drink in the intervals between the doses. When sudation reaches its height it is maintained as long as it is desired, for twelve hours if necessary, by keeping the patient covered with blankets.

Dover's powder is a valuable remedy in the beginning of measles and scarlet fever, when the eruption is not well developed, and if much fever and agitation exist. A single dose of 4 or 5 grn. will cause co-

pious perspiration in children. The author never gives this powder to children under 4 years of age, and always administers it in one dose. The hoarse cough in the beginning of measles is always very favorably influenced by the following mixture:

Dover's Powder } of each 3 grn. (0.2 gme.)
Washed Sulphur }

In the beginning of influenza, Dover's powder is also useful; it considerably ameliorates the catarrhal laryngitis and tracheitis, the pains in the limbs, and even in fever.

In case of pulmonary congestion the following formula may be used:

Dover's Powder..... } of each 5 or 6 grn.
Quinine Sulphate.... } (0.3 or 0.4 gme.)
Powdered Hyoscyamus. 1½ grn. (0.1 gme.)

This makes one dose, and two such doses are to be taken daily. This powder is a good expectorant. The expectorant effect may be increased if the sputa are hard to detach, by the following mixture:

Dover's Powder..... 2 grn.
Ammoniac..... } of each ¾ grn.
Siam Benzoin..... }
Anisated Sulphur Balsam... 2 drops
For one pill. Five or six such pills to be taken daily at intervals of from two to three hours.

Dover's powder is also very efficacious in the acute diarrheas, as follows: In the diarrhea *a frigore* of adults, in doses of from 4 to 8 grn.; in the diarrhea of infants during teething, in a dose containing only 3-4 of a grn., notably at night; and in the diarrhea which is coincident with the decline of measles and accompanied by a frequent and fatiguing cough. In the diarrhea of tuberculous enteritis the following formula gives good results:

Dover's Powder..... 150 grn.
Compound Chalk Powder }
Powdered Calumba . . . } of each 300 grn.
Dispense in sixty capsules. Two to be taken daily.

F.

The Choice of Diuretics

Dr. Liégeois, *Jour. des Prat.* (No. 46, 1897) is not quite pleased with the present methods of treatment of the various forms of renal dropsy. He sees no reason why digitalis is being employed in acute diffuse nephritis, following exposure to cold or scarlatina, where the heart does not take part, as a rule, in the pathogeny of infiltration. He prefers milk, tannin, and gallic acid in these cases. He claims that tannin in daily doses of 15 to 30 grn. will cause diuresis within a short time, due to its astringent effect upon the renal mucous membrane which relieves the congestion of the interstitial and parenchymatous tissues of the kidney, thus allowing the blood to

circulate freely through the minute renal arteries and preventing diapedesis.

After the abatement of the acute stage, in a week or so, he adds theobromine to the tannin. He administers theobromine in the form of capsules, 4 to 8 grn. each, from 15 to 30 grn. a day for a child 4 to 6 years old. Four to five pints of urine are excreted daily after three to five days' exhibition of these remedies. In cases of failure to respond quickly to this mode of treatment, the writer prescribes digitalis attributing the persistency of the disease to atony of the cardiac muscular fiber. S.

Diethylketone

Diethylketone, or propione, $C_2H_5.C_2H_5.CO$, is a mobile liquid, soluble in about 25 parts of water, miscible with alcohol and ether, and boiling at $101^\circ C$. Drs. Albanese and Barabini called attention in 1892 to it as being a hypnotic. More recently, however, Dr. Giovanni Noera (*E. Merck's 1898 Bericht*) has used the preparation with excellent results during the periods of excitement in maniacs and hysterical subjects, as well as in melancholy accompanied by stupor. The ordinary hypnotic dose is 0.5 gme. (8 grn.), but for demented persons it must be increased to 1.5 to 3 gme. (23 to 45 grn.). The remedy is best given in the following form:

Diethylketone. 0.5-1.5-3 gme. (8-23-45 grn.)
Peppermint Water... 20-40-80 gme.
(5-10-20 fl. dr.)
Syrup 5-10-20 gme. (1-2-4 fl. dr.)
To be taken at one dose.

F.

Digitalis and the Heart-muscle

The effect of the prolonged use of digitalis on the heart-muscle is discussed by Dr. H. A. Hare in the *Therap. Gaz.* for December, 1897, p. 800, having been determined by means of microscopical examinations and measurements by Dr. W. M. L. Coplin, professor of Pathology in the Jefferson Medical College. A litter of ten pigs, 2 months old, was procured and carefully assorted as to sex, weight, etc., five of them being treated with normal liquid digitalis, the others cared for in all respects similarly except that the digitalis was omitted. The average dose of 2 m. was given twice daily for a month, and was then regularly increased monthly until, after three months, 10 m. was given twice daily. This, according to weight-ratio, was equal to about 80 m. a day for a man, but no ill effects resulted from the large dose. After four and one-half months the digitalis pigs were found to weigh about four pounds each more than the others, having weighed the same at the commencement of the

experiment. Their hearts weighed little more than 1-2 ounce each above those of the others. The ventricular walls of these hearts were reported by Dr. Coplin as being much thicker, uniformly firmer, and cutting with more resistance. The measurement of many muscular fibers showed an average diameter of .02 mm. in favor of the digitalis hearts, this being an increase of from 1-10 to 1-5 in their thickness. J.

Treatment of Syphilitic Arthropathy

Dr. W. Pielicke (*Sem. méd.*, XVIII, p. 26) states that in cases of syphilitic arthropathy, where the painful condition of the joints prevented mercurial inunctions, he began the treatment in a number of cases, and with success, by the internal administration of a mixture made as follows:

Mercury Binioidide.....	0.1 gme.
Potassium Iodide.....	0.5 gme.
Water.....	180 gme.
Sherry Wine.....	20 gme.

Dose: Two tablespoonfuls daily.

When the articular pains have sufficiently abated, recourse is then had to inunctions with mercurial ointment, or mercurial hypodermic medication. F.

Therapeutic Value of Tannoform

Dr. M. Ebersson, of Tarnow (*Aerzt. Cent.-Anzeig.*, No. 26, 1897) descants on the therapeutic value of tannoform, and supports his statements by detailing experiments carried out and reports of cases treated. Among these were six cases of eczema, and seven of favus, in which the remedy was used either as a 33 1-3-per-cent. dusting-powder with talcum, or 10-per-cent. ointment with lanolin and vaselin. Eighteen cases of hyperidrosis pedis were treated, and in these the remedy acted like a specific. In many cases of purulent wounds and sores of the leg of torpid character, the effect was brilliant; and in the healing of recent wounds was accelerated, as well. F.

Ether Followed by Chloroform

Dr. Hewitt (*The Hospital*, Vol. XXIII, p. 373, 1898) points out that deaths taking place in the early stage are usually due primarily to rigidity, struggling, and "holding the breath"; secondarily, to a considerable quantity of the anesthetic being taken in during the succeeding respirations, so that the heart becomes paralyzed by the chloroform carried directly to it. But by giving ether and chloroform in succession the stage of rigidity and excitement, which is the dangerous stage under chloroform, is passed over under the stimulating effects of ether. Fatalities during this stage are practically unknown under ether. Having

secured a proper degree of anesthesia, chloroform may be substituted. Dr. Hewitt says that he has adopted this principle for several years, with splendid results. "Should ether cause cough, embarrassed breathing, or the secretion of much mucus, or should the operation be likely to be a protracted one, a change to chloroform is certainly advisable." Anesthesia, however, should not be deep when the change is made, or too much chloroform may be absorbed by the rapid respiration and brisk circulation brought about by the ether. Generally speaking, the conjunctival reflex should be present when the change is effected. S.

Thallium Acetate in the Night-sweats of Phthisis

Dr. Combemale (*Munch. med. Woch.*, Vol. XLV, No. 10, p. 319, 1898) recommends very highly the above drug for the night-sweats of phthisis. It is given in pill form in the dose of 1 1-2 grn., seldom 3 grn., about an hour before going to bed. It is given for four nights in succession, and the effect lasts eight to ten days. Of thirty cases that the author treated, twenty-eight were perfectly and permanently cured (of that symptom); one was temporarily improved, and on one the remedy had no effect. The effect is especially favorable in cachectic patients with cavities, also in bronchiectasis and in chronic bronchitis. In three cases the remedy had a rather disagreeable by-effect—namely, it produced a very sudden, extensive alopecia. But this the author ascribed to rather large doses (12 to 18 grn. a day), which were continued for a month. R.

Inhalations of Vinegar to Control Nausea and Vomiting after Anesthesia

Dr. J. Torrance Rugh states (*Phil. Polyclin.*, VII, p. 110) that he has very frequently made use of inhalations of vinegar after anesthesia, both in private and in hospital work, and was highly gratified with the results. The method of administration was to saturate a towel or cloth with fresh, strong vinegar (preferably that made from cider), and hold it few inches above the patient's face, or hang it from the bedstead, so that it will be near his head. It should be used directly after the anesthetic has been discontinued, and kept up continuously for hours.

In one case, in which ether had been given, nausea began soon, but ceased in about one and a half minutes after using the vinegar. This was then removed, and the nausea returned, but again disappeared after the vinegar was given. The action was so marked that the process was re-

peated five or six times so as to verify the conclusions, and each time the result was the same as at first noted, the patient quickly becoming quiet as though not going under complete anesthesia.

Another patient was given chloroform for the removal of pharyngeal growths and swallowed considerable blood. Vomiting of the clotted blood occurred, but ceased immediately after, and did not return.

These results have been duplicated in about twenty-five other cases, in which the action was almost uniformly beneficial. The relief from thirst to the patient is most marked, and the refreshing effect is both grateful and welcome to the sufferer. Its simplicity and efficiency commend its use to all having to do with such cases. It is also free from any toxic effects, and can occasion no harmful conditions. F.

Extract of Suprarenals as a Stimulant in Dangerous Chloroform Narcosis

In the *Russian Arch. of Path. Anat.*, Vol. IV, No. 2, F. A. Magnkovsky presents a series of observations made upon dogs, testing the action of the suprarenal extract upon these animals when narcotized by chloroform almost to the point of arrest of the heart and respiration.

The extract was thrown into the jugular vein in doses of 1 to 2 gme. of a 1-per-cent. solution, the effect on the heart-muscle and arterial tension being registered graphically. His conclusions were as follows:

1. The intravenous injection of the suprarenal extract is capable of saving the life of dogs suffering from extreme chloroform narcosis.
2. Compared with the procedures of other investigators, notably of Schüller, Laborde, and of König Maas, intravenous injections of the extract are preferable on account of its more rapid action.
3. Extract of suprarenals exercises a marked influence upon the respiration, the blood-pressure, and the tone of the heart muscles even in such small doses as 1 to 2 gme. (15 to 30 min.) of a 1-per-cent. solution. Hence it should be borne in mind that it is a powerful remedy and should not be given in large doses.
4. During chloroform narcosis it is wise to have prepared a fresh solution of suprarenal extract, preferably sterilized by boiling, in order to controvert any sudden collapse.
5. The best results, in cases of imminent death due to chloroform, are obtained by means of combined procedures; intravenous injections of suprarenal extract, massage of the cardiac region and the subcutaneous injection of physiological salt solution. J.

REVIEWS

Annual and Analytical Cyclopaedia of Practical Medicine. By Charles E. de M. Sajous, M. D. and One Hundred Associate Editors. Volume I. Philadelphia, New York, Chicago: The F. A. Davis Company, publishers, 1898.

There lies on the table before us the first volume of a very extensive book of reference for the use of the "busy practitioner," who is not too busy to wish continually to burnish up his old weapons and add new war-clubs and other devices with which to strike down disease. This cyclopaedia is eventually to consist of six volumes, one of which is to be published each six months, covering the whole subject from Alpha to Omega—that is, from A to Z. There is also a monthly supplement, so that at the end of three years the fortunate subscriber will have six large reference volumes with thirty-six monthly supplements. All this at the cost of \$10 a year, instead of \$15, which, if we remember right, was the charge for Dr. Sajous's previous enterprises. The first volume is certainly a very handsome one, printed in two types: large, constituting the general discussion of the subject; small, constituting special discussion of the recent literature. The result of our looking over it has been to the opinion that the work is well done and that it is bound to prove very useful.

The International Medical Annual and Practitioner's Index; A Work of Reference for Medical Practitioners. 1898. Sixteenth year. New York: E. B. Treat & Co., 241-243 West Twenty-third Street. Chicago: 199 Clark Street. Price \$3.00.

The handy size of the *Medical Annual* makes it a favorite among physicians who prefer to consult a small volume, in which facts are concisely and clearly stated in condensed form. The issue for 1898 is a very great improvement upon that of 1897 in general make-up and character of contents. The illustrations are very fine, thirty-six being full-page plates, and twelve are handsomely colored. A number of special articles in addition to those by the regular staff of practitioners are well worthy of special mention. That on "The Chief Pathogenic Bacteria in the Human Subject" is particularly good. It is by S. G. Shattuck, F. R. C. S., the Pathological Curator of the Museum of the Royal College of Surgeons, London. Attached to this article are ten finely colored plates showing stained pathogenic bacteria. Each illustration is by the same expert draughtsman from original specimens placed before him. All were made from cultures in an active stage of growth, thus enabling him to exclude abnormal and degenerate forms. There are Schizomycetes, Blastomycetes, and Hyphomycetes (bacteria, yeasts, and moulds). Those who are interested in Inebriety will be particularly well pleased with Dr. T. D. Crother's article on "Concealed Alcohol in Drugs," and sanitarians will find much to interest them in Dr. Joseph Priestley's "Record of the Year's Work in Sanitary Science." Book-buyers will find the list of new books issued in 1897 a good guide from which to select what they want but have not already secured in this line. Dr. Haynes' "New Inventions and Appliances" will prove useful to medical men who cannot visit large cities at will to pick out just what they may need. The article on Bubonic Plague, by A. Mitra, L. R. C. P.,

L. R. C. S., Chief Medical Officer of Kashmir, India, will give American physicians a good idea of the work done by brother practitioners with this intractable malady in remote Hindostan. The main body of the work is confined to Part III., where fevers, gynecology, ear-diseases, heart-diseases, insanity, neurology, obstetrics, ophthalmology, orthopedics, pediatrics, skin-diseases, stomach-diseases, urinary diseases, surgery, etc., are treated of. The price of the work (\$3) makes it within the reach of all and very low for a standard medical work of this kind. It is a pity that the line of demarcation between the advertising and reading matter is not more clearly drawn.

Practical Toxicology for Physicians and Students. By Prof. Dr. Rudolph Kobert. Medical Director of Dr. Brehmer's Sanitarium for Pulmonary Diseases at Goerbersdorf, in Silesia (Prussia). Translated and edited by L. H. Friedburg, Ph.D. Authorized edition. New York: William R. Jenkins, 851-853 Sixth Avenue (Forty-eighth Street).

The fame of Prof. Kobert as a medical chemist and toxicologist is world-wide. The fact that this volume is one of his production is an adequate recommendation as to its value. Dr. Friedburg has done the medical profession a decided favor in giving us an edition in English. As a ready-reference volume in cases of poisoning coming under a doctor's care, as a guide in forensic cases for expert toxicologists, and as a text-book on the subject of toxicology for students, we know of nothing else in English that is comparable with it of the same handy, compact size. There are many larger, costlier, and more pretentious volumes to be had, but the tabular form of presenting facts has given this work a decided advantage over all others. It is a masterly little work by a master hand and should have a place on the book-shelf of every man who is at all interested in the subject of toxicology. It is a pity that the translator did not call in the services of a competent medical botanist like Dr. Rusby to add to it the overlooked, exclusively American, poisonous plants. This defect should be corrected when a new edition is issued. Only a few are missing, as the majority of our poisonous plants are either importations or have representative species of the same genus in Europe. The rules of spelling chemical words adopted by the American Association for the Advancement of Science in 1891 have been added to the volume as an appendix.

The Surgical Complications and Sequels of Typhoid Fever. By William W. Keen, M. D., LL. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Based upon tables of 1700 cases compiled by the author and by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania; with a chapter on the Ocular Complications of Typhoid Fever, by George E. De Schweinitz, A. M., M. D., Professor of Ophthalmology, Jefferson Medical College; and as an Appendix the Toner Lecture, No. V. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898. Price \$3 net.

It would probably be overstating the fact to say that the general practitioner who has not read this work of Dr. Keen's, kept track of what bacteriologists and pathologists have been lately discovering in typhoid fever, or attended lectures in a college where special attention was paid to this disease, really knows practically nothing upon the subject. It certainly is not an over-

statement to say that the contents of this volume would be a most startling revelation to ninety-nine out of every hundred of the medical men who graduated ten years or more ago, and who have not been close readers of the work of the pathologists. That we stand on the verge of a revolution in medicine no one can doubt who reads and digests what Dr. Keen here shows of this single one of the continuous fevers. That the mass of medical men are not awake to the significance of much of what he reveals is apparent to him when he says that "the present work shows that these fevers are not infrequently the cause of the gravest and least expected surgical troubles, mention of which is generally omitted, even in our best text-books on medicine, still more rarely noticed in works on Surgery, and, where noticed, it is only with the greatest brevity." This is probably the first and only work that has yet appeared in the English language that gives the reader a clear view of what typhoid fever really is, and what it does, and can do to the human organism. All other works treating of it have given us a view of but broken, ill-assorted fragments. Here the whole image is presented in a way that the reader can know it. In a brief review like this it is impossible to do justice to such a work. It must be read and studied page by page to appreciate its contents. It clearly demonstrates that the typhoid infection is far from producing merely an enteric fever. The lesson taught us in tuberculosis, after Koch had discovered the tubercle bacillus, is here repeated for typhoid through the discovery of Eberth's bacillus by aid of pathological researches. The disease instead of confining itself to Peyer's patches and poisoning the system with ptomaines there produced, is now found to attack the body at a multitude of points. The intestinal glands may be free from lesions, with the fever raging and its fires kindled and kept up from wholly different regions. The old notions of fifteen or twenty years ago that are taught even to-day by some are now wholly untenable. This book should be in the possession of every medical man in America.

Secretary Baker, of the Michigan State Board of Health, is reported in the *Detroit Tribune* as saying: "To-day there are health-officers serving in Michigan who have purchased their diplomas, without having ever been near a medical college. The president of a local board of health reports to the Secretary of State that in his county, since Dec. 5, 1896, fifty-eight physicians have registered as graduates from the Independent Medical College of Chicago. One of these 'graduates' has lost fifteen cases of tonsillitis and diphtheria, while regularly educated physicians have lost none. The same man now runs the institution named, who was at the head of the Illinois Health University, the charter of which was annulled by the Illinois courts at the instance of the Michigan board. The Attorney-General of Illinois is now trying to have the charter of the new institution revoked. But if Michigan had a proper law, purchased diplomas would not be good in this State, and citizens of Michigan who are too sick or otherwise unable to select a qualified physician would not be sacrificed on this altar of ignorance."

The women physicians of Chicago on April 15, 1898, organized a National Emergency Association of Women Physicians, Surgeons, and Nurses, to care for wounded and sick soldiers during the war. The president is Dr. Gertrude Wellington.

American Medico-Surgical Bulletin

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HORATIO C. WOOD, M.D., LL.D., Editor
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EDITOR'S NOTES

The Chamber of Commerce of Colorado Springs is preparing what it deems a convincing book about its region as an excellent health-resort. The title is "Colorado Springs and Its Environs." The Chamber will distribute five hundred copies among the visiting doctors to the American Medical Association at its June meeting in Denver. In our wanderings over Europe and North America in which we visited nearly every prominent health-resort, we found but few that could favorably compare with the region around Colorado Springs. Its air, its water, its scenery and its situation are superb.

Dr. A. H. Doty, health-officer of the port of New York, is reported in the daily papers as having for some time had a corps of bacteriologists at work investigating the serum produced by the action of the *Bacillus icteroides* of Sanarelli. He claims that by its aid he has succeeded in making rabbits and guinea-pigs immune to this germ, so that they would live after being inoculated therewith, although control-animals not so protected would die. He seems to hold that Sanarelli has discovered the true germ of yellow fever, and that its activity causes the disease. If the serum fails, will it be evidence to him that Sanarelli is wrong? If the newspaper-men report Dr. Doty aright this is his attitude. He should

remember Koch and his sad experience. It by no means follows, as a necessity, that because we have secured the germ that is the true exciting cause of a disease that therefore we can by its aid make a serum that will cure that disease. Where the prominent symptoms of a disease are due to mixed infection only a mixed serum can be reasonably expected to be successful. We know too little of yellow fever yet to pin our faith to any serum. It is all right to have these experiments proceed, but we must avoid being over-sanguine of success in every instance.

The instructions lately issued by Surgeon-General George M. Sternberg to the army medical officers are timely and in all respects excellent. If they can only have every point rigidly carried out, there will be very little yellow fever or other contagious disease among our soldiers in pest-ridden Cuba. His advice to choose high ground for the camps and to change their location as often as every ten days, would mean the saving of a multitude of lives if adopted. Unfortunately, the universal tendency to follow the line of least resistance is so strong in everybody that unless the officers are made to appreciate clearly the importance of such action, it is doubtful whether the advice will be persistently carried out even if tried at first. It all means extra work and a good deal of it for every man. Water is usually found down the hill. The animals will want to graze down the hill. The ground for the tents will be smoother down the hill. The villages and supplies on the average will be down the hill. The streams in which to bathe will be down the hill. The order to drink boiled or filtered water, except when approved spring-water is obtainable, will not be appreciated if much of the former has to be taken. Without aeration it will taste unpalatable. Dr. Sternberg points out the danger of having food and drink infected by flies, but he fails to have all medical officers insist upon everything being kept covered up to keep off the flies and to keep out germ-laden dirt. One of the most difficult things to get cooks and waiters to do is to have them keep everything covered up. In nothing do they lapse more, and it seems almost or quite impossible to impress them with the necessity of this precaution. When they want to cool hot victuals, and when they serve them, off go the covers. In the camps of soldiers the bakers often leave the dough exposed for hours. The dust of Cuba is in many places laden with death, and every soldier who goes there should know it, so that he

will seek to keep covered everything he eats and drinks until it is about to be taken into his mouth.

The *Chicago Tribune* of April 14 had a three-column article extolling the medical men of its city in most glowing terms. The head-lines were dazzling in their extravagance and well calculated to injure the reputations of the able men it sought to favor. It is strange that political journals are as a rule unable to understand the fact that among men of science such cajolery is extremely repugnant, if not actually offensive. We feel certain that Dr. Edwin Klebs, Dr. N. S. Davis, Dr. Nicholas Senn, Dr. John B. Hamilton, Dr. Christian Fenger, Dr. John B. Murphy, and the other gentlemen named took no part in supplying information for a eulogy so fulsome that it must, to them, have been sickening. All articles of this character have an extremely bad effect on the rank and file of medical men in that it supplies an excuse for the covert advertiser to ply his underhanded methods of extolling his wares. If there was an actual conspiracy within the newspaper world to wreck the respectability of the profession no surer method of accomplishing the result could be adopted than that of frequently publishing articles like this one of the *Tribune*. Lately we have noticed a multiplication of unintentional attacks. We have no doubt that the writer thought he was doing the right thing and rendering praise where praise belonged, but he overdid it so far as the satisfying of the wishes of the gentlemen concerned, while at the same time holding out a tempting bait for other less worthy ones to buy with dollars and cents advertisements of such great value. It is this extravagance of utterance that takes with the public, and anything short of it falls flat in their estimation.

A Tumor, Resembling the Thyroid Gland, Occurring in the Femur

Dr. Carl Goebel (*Deut. Zeit. f. Chir.*, Leipzig, 1898, XLVII, pp. 348-364) has recorded an interesting case of metastasis of the thyroid gland. A woman, 54 years of age, had broken her leg twice, the last time the fracture refusing to unite. At the seat of the fracture a tumor developed which was thought to be malignant. An exploratory incision was made, with subsequent hip-joint amputation. The tumor was carefully prepared and a detailed study made of it. The microscopical examination showed without a doubt that its histological structure was that of the thyroid gland, and this diagnosis fitted in with the clinical history.

T.

PUBLISHERS' DEPARTMENT

WISCONSIN FARM LANDS

There is a rush now to the choice unoccupied farm lands along the line of the Chicago, Milwaukee & St. Paul Railway in Central Wisconsin.

Good quarter sections can now be had for \$7.00 and upwards per acre, one-third cash, balance on long time at current rate of interest.

For further particulars address W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago, Ill.

LITHOS

Mulford's Tablet Lithos Effervescent, recently brought to the attention of the medical profession, has elicited much favorable criticism. This is a most efficient combination of lithium bitartrate with sodium salicylate, *recens*, and has been employed with success in rheumatic and gouty conditions and in affections characterized by an excess of uric acid. Each tablet contains more fresh lithia than found in one gallon of the so-called lithia waters. Lithos is well tolerated by delicate stomachs.

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co., and Leased, Operated, and Independent Lines.

The Office of General Passenger and Ticket Agent makes the following announcement:

If you go to Denver to attend the meeting of the Association, of course you want to take the best train, over the best route. And as to what is the best train and the best route, there is no room for difference of opinion.

The finest special train for Denver on this occasion will be the CHUTMUCK SPECIAL, run over the "old reliable," the Missouri Pacific Railway. The equipment of this train will be unsurpassed. Vestibuled throughout, all dirt and dust is absolutely avoided. Pullman Compartment and Buffet Sleeping Cars afford the best accommodations that can be procured.

SPECIAL CAR CONVECTIONS AND STOP-OVERS.

For the doctors of the East and South, a special inducement to take this train is the through car service that has been arranged for. Pullman Cars from the South and from the East are to be attached to the Chutmuck Special at St. Louis, thus completely avoiding change of cars en route. This is a point worthy of careful consideration by all who esteem comfort in traveling.

An advantageous feature of this train is the liberal provision made for stop-overs. On all tickets going and returning by diverse routes, stop-over is allowed at Omaha on deposit with Joint Agent of Bureau at that point. This enables all who so wish to see the Great Trans-Mississippi and International Exposition. On all tickets going and returning via same route and one-way tickets, a charge of \$1.00 for deposit and extension will be made. The same arrangement as to stop-overs will be made at Kansas City.

RATES OF FARE.

One lowest first-class fare, plus \$2.00 for the round trip to Denver, Colorado Springs or Pueblo. The fare from St. Louis required on this basis will be \$26.50. Similarly reduced rates from eastern points will prevail. Tickets will probably be on sale June 3d, 4th, 5th and 6th, 1898.

THE ROUTE

of the Chutmuck Special lies west from St. Louis through one of the most interesting sections of the United States.

Taken all in all, the Chutmuck Special will be unquestionably the most popular train to the Association meeting in June.

Particulars and further information will be furnished by H. C. TOWNSEND, General Passenger and Ticket Agent, St. Louis, Mo.

NEWS

On July 1, Memphis, Tenn., will have a new medical monthly journal, which is to be named *The Lancet*.

A Tiffin (Ohio) doctor has begun suit against a railroad because it charged him 50 cents for a ticket that carried him only fifteen and a half miles. He asks \$150 in damages.

The Department of Agriculture is seeking information from physicians regarding cases of contagious diseases that have been caused by eating food produced on sewage-fertilized soil.

The American Surgical Association, at its late annual gathering in New Orleans, elected Dr. W. W. Keen, of Philadelphia, president, and selected Chicago as the next place of meeting.

The new public-health act of Scotland declares wakes illegal. A Govan chimney-sweep is the first victim. He was lately fined five dollars for adopting this form of devotion to the dead.

The Homeopathic societies of the country are sending resolutions to President McKinley, asking for the appointment of members of their school to positions of honor in the medical service of the army and navy.

Several new anti-jag remedies have been announced by the newspapers. The latest is that of Dr. D. C. Bartlett, of Chicago. One of his patients is quoted as saying that no one could now get a drink into him with a shot-gun.

A Brooklyn Commissioner of Charities lately wrote a scathing letter to the superintendent of a hospital there for having a dying woman driven several miles over hard pavements in an ambulance, solely to have her die in another hospital.

The Western Ophthalmologic and Otolaryngologic Association held its third annual meeting in Chicago on April 7 and 8. Dr. J. E. Colburn, of Chicago, was elected president for the present year. The next place of meeting will be New Orleans.

The eighth annual meeting of the Association of Military Surgeons of the United States, that should have met in Kansas City, Mo., on June 1 to 3, has been postponed indefinitely owing to the war with Spain. Kansas City surgeons feel disappointed.

The Woman's Christian Temperance Union of Richmond, Indiana, has begun a campaign against tuberculosis. It is distributing circulars on the cause and prevention of the disease. The city council is to be asked to pass an ordinance against spitting in public places.

The American Medico-Psychological Association meets in St. Louis May 10. Dr. Henry M. Hurd, of the Johns Hopkins Hospital, the present vice-president, has been spoken of as the possible president for next year. The association is mainly composed of superintendents of institutions for the insane.

The Baltimore Medical College recently graduated two Egyptians. At the commencement exercises the mayor of the city addressed the graduates in so patriotic a manner that next day these two wrote him a letter offering their services to the United States government as an evidence of their gratitude.

A man lately died in the Muhlenberg Hospital, of Plainfield, N. J., in a state of hysteria due to fear. He was bitten by a perfectly healthy dog, and was worried into an attack of simulated

hydrophobia by practical jokers asking him repeatedly "if he felt the hydrophobia coming on" or "if he could stand it to drink water yet."

The editor of the *St. Louis Clinique* suggests the advisability of sending to Cuba only such physicians as have been proven immune to yellow fever. All others are likely to serve as fuel to the disease, owing to their exposure in treating it. He refers to the great mortality of doctors during the Memphis epidemic of 1878.

The Colorado women doctors are up in arms because of the appointment of a woman physician from Illinois as head of the medical staff of their State Industrial School for Girls. This action of the board is looked upon as a reflection upon their standing and ability. They think that there are as capable women for the place in Colorado as any to be found in any other State.

A coal-black young Afro-American, of Brooklyn, named John Barnes, has begun suit against Dr. Crova, of the same city, for \$10,000 damages for personal injuries sustained during an attempt on the part of the doctor to remove the pigment from the rete mucosum of the whole surface of his body. As the doctor failed in his attempt to make a white man out of the Ethiopian, according to promise, the suit was begun.

The Boston Emergency Hospital has adopted the use of an electric circular saw to take the place of the knife in making amputations. The surgeon-in-chief claims that by its use no anesthetic is necessary, as the operation is painless, and it shortens the time, as it cuts through almost instantly. This he claims lessens the shock. No ligatures are needed, and all the cases so far treated have done better than by the old method.

Dr. J. W. Graham, chairman of the Reception Committee of the American Medical Association, says that the American-Spanish war will not affect the attendance at the Denver meeting in June to any perceptible degree. He bases this prediction on the fact that most of the members, and particularly those likely to attend, reside in the Central States and not in the Atlantic or Gulf States. He does not expect more than 100 from all of New England, and about the same from New York.

The Philadelphia Medical Society lately declared that, in its judgment, in the presence of the present typhoid-fever epidemic, "the public safety demands the immediate enactment of such legislation as may be necessary to authorize the construction, maintenance, and operation under public ownership and control of a proper filtration system," and the society "warmly appreciates the course of those members of Select and Common Councils who have earnestly and untiringly worked for filtration under public ownership."

Dr. Byron Robinson, of Chicago, in a communication to the *Medical Fortnightly*, says: "New York as a medical center is forever gone. The medical center is now Chicago, because of its railways, accessible location, and because of its numerous post-graduate schools, its progressive physicians, and its vast clinical advantages. The post-graduate schools have also done a vast amount of harm, by giving a little (dangerous) knowledge to bold and unscrupulous physicians, who after a few weeks' instruction return to their small towns to begin a cruel reign of wicked surgical depredation. Many of the operations have been more than useless to the patients; reckless invasion of rights by the doctor, and sadly immoral for the public, especially in the field of sexual organs, which dominate the mind and influence action."

American Medico-Surgical Bulletin

Vol. XII

NEW YORK, MAY 25, 1898

No. 10

EDITORIAL

RECENT LITERATURE OF ANIMAL EXTRACTS —No. 2

THYMUS-GLAND. — Our knowledge of the therapeutic activity and use of the thymus-gland has only been so far advanced in the last two years as to indicate that the gland is of doubtful value. The fact that the thymus-body disappears with the completion of development would seem to indicate that the relations between it and the general nutrition during the period of development are so close that it might be useful in rickets and other allied diseases which occur especially during the developmental years of life, and are accompanied by marked failure of the general nutrition. We know, however, of no studies made upon this subject. The accidental substitution of thymus for thyroid in a case of goiter led to its use in true goiter, and also in the exophthalmic goiter. According to Bauman, it contains iodine in much less quantity than does the thyroid gland, and certainly experience seems to show that much larger amounts of it are borne than of the thyroid gland; the extract having been given in doses as high as 75 grains daily. In the few cases of true goiter (Swiss form) published the results seem to have been favorable. In exophthalmic goiter the reports of clinicians as to the

effect of thymus-extract vary remarkably. Good results have been reported by McKie, by Owen, by Edes, and other physicians. On the other hand, there have been failures not a few.

The largest collection of cases, thirty-five in all, that we have met, is that made by Hector MacKenzie. Without discussing in detail the evidence thus afforded, it suffices that it appears to us to warrant the conclusion reached by MacKenzie, namely, "that the thymus-gland possesses no specific action in Graves' disease;" very rarely, if ever, affecting either the heart, the goiter, or the exophthalmus. Rather oddly, MacKenzie does believe that the gland has some peculiar nutritive or alterative action which warrants its being classed with cod-liver oil.

That the thymus-gland, or at least its extract, has physiological properties has been shown by the experiments of Svehla, who found that its intravenous injection produces a marked fall of blood-pressure which he believes to be the outcome of vaso-motor paralysis, and that large doses cause dyspnea and collapse, ending in death. In the research of Cunningham, the thymus-preparations were given to thyroidless dogs, with marked improvement in the symptoms of the cachexia; without, however, putting off very distinctly the fatal result; the animals rarely surviving over eighteen days. It will be noted that these were just the effects obtained by Cunnings-

ham with the thyroid extracts, and it is worthy of remark that usually the animals treated with thyroid extracts died more quickly than did those to which the thymus-preparations were given; so that, in the words of Cunningham, "the concentrated thymus-extractives prove just as efficient in palliating the cachexia in totally thyroidless dogs as the thyroid extractives."

This is in accord with the results reached by Cunningham earlier in his research, namely, that the thymus-bodies, like the thyroid bodies, when administered absolutely fresh, have no peculiar effect upon the lower animals; but when stale, whether given raw or in the form of an extract, produce symptoms entirely similar to those caused by parallel preparations of the thyroid bodies; a property which Cunningham believes to be shared by various flesh-preparations, and therefore neither peculiar to nor characteristic of thymus or thyroid bodies.

SUPRARENAL BODIES.—The recent advances of our knowledge in the therapeutic use of the suprarenal bodies is chiefly interesting from its suggestiveness. Clinical experience with administration of the extract in Addison's disease, recorded in 1896 and 1897 by Osler, Wood, Langlois, Stockman, Bramwell, Kinnicutt, and others, offers a number of cases in which effects little less than marvellous have followed the use of the remedy; but includes also numerous cases in which the administration of the suprarenal body has failed to do good. In the collection of forty-eight cases by Kinnicutt, cure is stated to have been obtained in six, improvement in twenty-two, failure in twenty.

Such differences as these are *a priori* not surprising. The lesions of the suprarenal capsules in various cases of Addison's disease are very various. In many of these cases the organic change is not confined

to the suprarenal bodies, but progressively invades the neighboring structure. All that the suprarenal extract can do, when exhibited, is to supply to the general system material which should have been furnished by healthy suprarenals; obviously the local lesion is not in any way benefited. Now, if this lesion be tubercular or cancerous, or of any nature which makes it progressive and invasive of new tissue, suprarenal extract must fail. As, however, the diagnosis of the nature of the suprarenal lesion is rarely possible, it seems to us that trial of the suprarenal extract is demanded in almost every case.

As is well known, there are two theories of the function of the suprarenal capsules which have been strongly advocated: First, that their bodies produce an active substance; second, that their function is to destroy poisons in the blood. Of these theories the first seems to us to be gaining general adherence among physiologists, although some very recent papers appear to prove that death, both in Addison's disease and in decapsulated animals, is due not to the absence of some substance from the blood, but to the presence of one or more active poisons. In a research made last year, Max Mosso found that when a decoction or other preparation made from the remnants of the suprarenal capsules, from the liver, or from the spleen of a man dead of Addison's disease, was injected into white mice, rabbits, and guinea-pigs it caused a rapid intoxication, ending in death. Control-experiments made with similar preparations from organs taken from men dead of other diseases than Addison's failed entirely to produce similar results; so that it would appear to be established that in morbus Addisonii there is present probably in all parts of the body a peculiar poison or poisons. In a series of experiments by Gourfein, extracts made from the

and various organs of animals had died as the result of extirpation of the suprarenal bodies, produced when injected into other animals symptoms entirely similar to those which had existed before death in the animals from which the suprarenals had been removed; a strong indication that auto-intoxication is the cause of death after removal of the suprarenal glands. This does not positively prove, however, that the auto-intoxication is produced by poisons which in the normal animal are removed by the suprarenal glands, since it may be that the poisons which are the cause of auto-intoxication are secondary products, due to the disturbances of functions of tissues or organs not directly connected with the suprarenals. The matter is a difficult one, especially in view of the fact that it is further possible that the suprarenal bodies have a double function, and that they not only produce a substance whose activity is useful in the organism, but also destroy certain toxic principles. Whether, however, we believe that the active substance in the suprarenal bodies is made in them, or that it is simply gathered into them from out of the blood for the purposes of destruction, it is certain that there is a more active substance in the glands, and its well-known influence upon the circulation strongly suggests that if it could be sufficiently isolated to be a commercial product it might be extremely useful in surgical shock, neurasthenia, and other affections, with lowered vasomotor tonus or circulatory failure. In neurasthenia there has been a little recorded experience. Huchard believes that he has obtained good results in two cases by the use of from 15 to 30 grains daily of the fresh gland.

In accord with the known influence of the extract upon the blood-vessels, as long ago as September, 1898, Darier found that a single drop of the suprarenal-extract solution, when locally applied, would

produce very active ischemia of the conjunctiva, even when there was pre-existing inflammation. Intense pallor of the mucous membrane was produced, appearing in from thirty to forty seconds, and lasting fifteen to twenty minutes. According to Darier, Dor was the first to recommend the application of the suprarenal extract to those cases in which the extreme hyperemia of the conjunctiva interferes with the production of local anesthesia and an urgent operation. Maurange strongly recommends an aqueous extract for the prevention of hemorrhage during operations on the eye; as a hemostatic, and as an assistant to the usual method of treatment in conjunctivitis, keratitis, and other ocular inflammation. It is important that the solution be made fresh at the time of using, as it undergoes rapid decomposition.

These facts lend great importance to the search for the active principle of the suprarenals; a search which has been participated in by DuBois, by Moore, by Fränkel, by Mühlmann, and by Abel and Crawford, without a final positive conclusion having been reached. The most recent results, those of Abel and Crawford, are in direct opposition to those of Mühlmann. The latter observer came to the conclusion that the active principle was a compound of pyrocatechin; a conclusion which it may be noted does not seem to be probable from a physiological point of view. Both Fränkel and Moore conclude that the blood-pressure-raising constituent of the gland is a chromogen, obtained many years ago by Vulpian. In the very elaborate and able work of our own countrymen, at Johns Hopkins of Baltimore, it was, however, seemingly proven that the active principle is alkaloidal, and in all probability belongs with the pyridine bases. If a standard preparation could be commercially prepared it would probably be a most valuable arterial stimulant.

WHAT IS A DISEASE?

IT is a common habit of medical men to speak and write of intermittent fever, scarlet fever, pneumonia, hepatitis, sarcoma, insanity, enteric fever, and other ailments as diseases. What do we mean when we call intermittent fever a disease? What do we mean when we call any ailment a disease? Is this name attached to some imaginary entity that can have a distinct name like a house, a tree, or an animal?

There was a time when men looked upon disease as obsession, and every form of it as a different type of obsession. Then each kind of disease was considered a distinct kind of entity that could be driven out by remedies, charms, or incantations. The driving out of a disease was then equivalent to driving out a demon. This notion is now practically banished from the civilized world, but vestiges of it can be traced in most of the ideas of laymen concerning medical matters, and all medical men are not entirely free from them.

There are probably no physicians who would now confess that they think or believe disease to be an entity, or that there is any particular thing that they drive out of the body of a patient by the administration of pills, powders, or potions. In spite of this fact, if a man of ordinary intelligence, but wholly unfamiliar with medical matters, should listen for a while to a group of doctors while they talk about a simple case of measles, and how they treat it, he would go away bearing the impression that they all held to such a belief. Our every utterance, and even our thoughts, are sometimes warped unconsciously by the old crude notion. The belief that some one single cause is responsible for each given disease, and that some one specific remedy, if we could only find it, would cure each disease, is a ghost of the

old demonology that still lingers in some medical and in most lay minds.

Such a notion is wholly opposed to facts as we now know them. It was this kind of thinking that led us to believe that each particular form of ailment had some particular form of bacteria as its sole cause. It was this that led bacteriologists to hunt for the microbes of consumption, pneumonia, malaria, diphtheria, typhoid fever, Bright's disease, Addison's disease, meningitis, and all the so-called diseases enumerated in the text-books on practice. The delusion is not yet wholly at an end, but it is rapidly being subdued by the growing dominance of scientific common sense.

We are fast learning that microbes are never the sole cause of any disease, and that the so-called diseases have themselves no objective existence other than as related groups of symptoms of bodily derangements due in all instances to several causes. Diseases *per se* do not exist. We have given names to certain deviations from the normal equilibrium of forces that constitute health, and then exalted these names in our minds to real things. Every one of the causes that conspire to any given form of deviation from health may by other relations cause wholly different deviations, and therefore wholly different diseases. On the other hand, any given deviation from health may at different times be due to wholly different causes. If regular physicians have sinned to some extent in this, sectarian practitioners have sinned more. The distinction made by homeopaths between similar and the same (i. e., identical) diseased conditions brings them perilously near to ancient demonology.

Every disease is similar to every other disease, and there is never such a thing as identity of disease. Every remedy taken into the system produces symptoms similar to every disease that flesh is heir to. It is

all purely a matter of degree. In some cases the similarity comes nearer to identity than others, but in no instance is it conceivable that identity could be possible. When the last vestige of demonology is laid to rest and the lingering echo of the ancient belief in obsession is banished, such a distinction must disappear forever.

The facts of bacteriology are rapidly carrying us toward the true significance of disease and away from the earlier crude notions. This naturally is stirring up bitter opposition on the part of the non-progressive. They cannot adjust their minds to the new ideas. Each new discovery adds to their hopeless floundering in confusion and to their inability to keep pace with its strides. They all take refuge in the last resting-place of mental incompetence and pronounce the problem inexplicable or resolve it into a mystery. Giving up the problem they tell us that disease is due to some unknown constitutional disturbance. Bacteria they tell us are only scavengers that invade the body because it is diseased.

That most medical men have overrated the importance of microbes in the etiology of given diseases is no excuse for the existence of supercilious ignorant scepticism. Every new advance in science is followed by the overestimation of some important feature. We never reach the exact truth in science at a single bound. Coming discoveries always sweep away a lot of erroneous inferences drawn from past discoveries. That bacteriology should follow the other sciences in this experience is no more than might be expected. No one has yet overestimated the importance of microbes as causative factors in that total of bodily derangements that constitute what we call disease as distinct from diseases. The more we learn of them the more certain we become of their importance there.

AMONG THE EDITORS

HOSPITABLE PLANS OF THE DENVER PROFESSION

For the entertainment of the members of the American Medical Association our Denver brethren are planning in a thoroughly whole-souled and characteristic fashion. The following are some of the things more or less certainly awaiting us: The American Academy of Medicine holds its banquet on Saturday evening; the Denver physicians give a banquet to the members of the American Medical Editors on Monday evening; the visiting ladies are given a trolley-ride about the city and to Elitch's Gardens on Tuesday afternoon; the sectional dinners are on Tuesday evening; a general reception will be held on Wednesday evening at Brown's Palace Hotel; on Thursday afternoon the ladies will be escorted to Fort Logan or the Country Club; on Thursday evening receptions will be the order, by the Denver and Arapahoe Medical Society at the home of the President, Dr. Hershey, and also at that of Mr. Hill, of Mr. Kountz, and of Mr. John Campion, as well as at the clubs; on Friday there will be either a trip around the famous loop, or to Los Vegas, New Mexico, through the mountains—perhaps both; on Saturday the physicians of Colorado Springs will entertain the Association. We are authorized to state that the fears and doubts as to hotel-rates and entertainment are groundless, but rooms should be engaged in advance. We give in another column a list of the hotels to which application may be made, adding our private word of general advice that the complaints against hotels are often, perhaps, justified, but are more often not justified. We have known many instances in which hotels have been outrageously treated by the engagement of rooms which have been held according to promise by the management, but which the persons engaging did not call for. Get a definite promise in advance by letter from the hotel of your choice and we believe the managers will fulfill their part of the contract. The railway rates have not yet been precisely fixed, but we are informed

that west of Chicago one fare for the round trip is pretty certain, with little or no difference from this east of Chicago. It seems beyond doubt that the meeting is to be exceptionally successful and well-attended. Although the distance is great and the time required will be more than is usual, a great many will wisely improve the opportunity to make a delightful visit. We heartily urge all to make the sacrifice and go, being confident that they will not regret having done so. Let us show our Colorado colleagues that we can be as appreciative and grateful as they can be friendly and hospitable.—*Phil. Med. Jour.*

THE PLAGUE OF "EXTRAS"

An intolerable nuisance, annoying to the well but absolutely harmful to the sick, is the crying of "extras" in the streets of this city, and, we presume, of others in the country. From early morning until midnight, weekdays and Sundays, the hoarse shouts of half-grown lads and the shrill treble of midgets deafen the ears and rasp the nerves of invalids, by whom the ordinary and what we may call normal city noises are in themselves almost unbearable. If the city authorities can regulate the playing of musical instruments in the streets, surely it is within their power to abolish this street terror. News-stands are to be found at almost every corner on the business avenues, and people whose eager thirst for war news is not to be satisfied with the regular morning and evening editions of the papers, can find the extras at these stands, while invalids and others to whom the war is something more serious than a football match can be spared the useless suffering of these rancorous cries.—*N. Y. Med. Record.*

NAVAL SURGERY

In naval warfare the shortcomings of our warships as places wherein to treat the sick and wounded are well known. It has been sought to improve this state of things by supplying hospital ships that will have more room for the sufferers, and that will be able to rapidly transport them to land. However useful these ships may prove, they are but a makeshift for a sad condition of

affairs. Such ships will be in attendance upon fleets, but will not be in attendance upon vessels cruising singly. In case of a battle between two such ships there will always be the possibility that a large number of men will be disabled, and that the small sick-bays provided may prove totally inadequate to the work rendered necessary. It would seem a great pity that our modern constructors should have been obliged to sacrifice to such an extent the welfare of the sick to the efficiency of the vessels as fighting machines. There is no remedy for this state of things, as far as we know, but the wounded on ships will have over land-forces the advantage of more prompt aid than befalls to those who are scattered upon battlefields, since we know of what immense value is the immediate stopping of hemorrhage and the prompt dressing of wounds. In these respects the wounded at sea will fare incomparably better than was wont to be the case in the olden days of naval battles.—*Intern. Jour. of Surg.*

OUR MOST DEADLY ENEMY

At the instance, it is said, of Prof. John Guit  ras, instructions have been issued to the United States Army, giving information as to the best method of preserving health under the conditions to which the troops will be exposed in Cuba. It is not likely, however, that the instructions as to bathing the feet, as to the use of boiled water only, as to the avoidance of alcohol and other excesses, as to the means of protection from the sun, as to the constant provision of the necessary lemon, etc., will be possible of exact fulfilment under all the conditions of warfare, or will be scrupulously observed when so possible; and we must be prepared to lament the death of thousands of our bravest and best citizens, not alone from bullet and bayonet, but from pestilence.

It has been asked whether it would not be possible to employ preventive inoculation of the American troops as a safeguard against yellow fever. As to the possibility of this measure being carried out on so large a scale as would be necessary, as to the risk of disabling the army thereby and hampering its operations, and, moreover,

as to the chances of success, grave doubts must be expressed. Unquestionably the subject will be taken into consideration by the Surgeon-General and his advisers, and we may be assured that whatever decision they may come to, will be the wisest.—*Phil. Polyclinic.*

THE MEDICAL ASPECT OF THE WAR WITH SPAIN

At last war is upon us. There is every reason to expect that it will not assume the terrible aspect of our internecine struggle in the sixties; indeed, it does not seem likely that there will be any contest on our own soil, even in Texas, where there is said to be some apprehension of a raid on the part of hot-heads from over the Mexican frontier. There is warrant for going further, we think, and entertaining the idea that our land forces will take but little part in actual battle, and may not be sent out of the country at all.

Nevertheless, no man can tell how long the war is to last or what exigencies will arise to call for moves that now seem reasonably sure not to be required. We must make our preparations, therefore, with that element of uncertainty in mind. Our force must be a large one, and it must be well provided for in every respect, including the items of food, drinking-water, shelter, clothing, camp and transport policing, and medical service. We feel very sure that in all these respects our army will have all the advantages that it is legitimate for it to expect from the advances that have been made in the care of troops of late years. In particular, we are confident that the medical corps is in a state of the highest efficiency, and that it will not be cramped in the matter of supplies. It is not alone to the medical corps of the army, moreover, that we look for the protection of our men's health; the officers of the Marine-Hospital Service, several of whom have been on duty in Cuba, will undoubtedly be able to render most efficient co-operation by virtue of that experience and of their familiarity with yellow fever and the severer forms of malarial fever. If a land campaign takes place, and if the struggle proves to be prolonged, convalescent camps at least, if not regular

military hospitals, will have to be established within our own borders, we should say, for it will be well on all accounts to send home all who contract grave forms of disease or are severely injured, in case their condition admits of it. It may be safely assumed that the government has thought of all these things and made provision accordingly. We look, therefore, to see the physical needs of our men as well looked after as the state of war admits of.—*N. Y. Med. Jour.*

MEDICAL ASPECT OF THE WAR WITH SPAIN

After the occupation of Cuba by American troops—especially about the seaports—a far more deadly and a much more-to-be-dreaded enemy than Spanish bullets is to be met. Yellow fever, concerning which so few, relatively, of the United States Army possess immunity, is to be contended with from about the first of May till October, or perhaps later. Of course alliance will be made between the Army of the Cuban Revolution and that of this country. It is to be hoped that there are enough immunized against yellow fever in the Cuban Army to occupy the seaports and places of chief prevalence of this tropical disease after the Spanish have been made to surrender or to leave them. Such would leave the non-immunized American Army to occupy these points on the Island where they could be serviceable in event of need, and yet saved from the ravages of this dread disease.

Should an American Army of occupation be in Cuba during the summer, it would be imprudent to allow them furloughs to return to their homes at that season. Quoting from the *Age Herald*: "Sufficient attention has not been given to that form of Spanish misrule that goes by the name, yellow fever. It is a product of misrule; and during the coming summer, unless decisive action is soon had, the danger will be unusually threatening. The great number of half-starved non-combatants, surrounded by conditions that invite the dread fever, will imperil every life in the South. This will be the form that Spanish inhumanity will take in this country. War would perhaps increase the danger; but the overthrow and expulsion of the Spaniard would speedily

put an end to all risks on that account. It would bring security to a dozen States that are now insecure, and this of itself would be a great gain in this section of the country." "The dread of epidemics from the huts of reconcentrados, or from the foulest of foul harbors, would be ended and the entire Southern country would draw a long breath of relief."

It requires no suggestion from us, we are sure, to cause every surgeon of either the United States Army or Navy who expects to participate in the war to thoroughly study up yellow fever and other diseases peculiar to the torrid zone.—*Virg. Med. Semi-Monthly*.

THE HYGIENE OF A CUBAN CAMPAIGN

The necessity of landing a large number of United States troops upon Cuban soil seems unavoidable, and the consequent danger to their health from endemic disease is exciting wide comment and is apparently delaying a move most essential to the speedy termination of barbarous warfare and inhuman starvation.

Military invasion means disease as surely as it means traumatism, and the only thing to predetermine is what diseases must be faced and how their acquisition and fatality may be minimized. It is the opinion of those best able to judge that the prospective danger to our troops has been greatly overestimated, a fact much to be deprecated, as it has apparently engendered delay and surely tends to dishearten the soldier. Moderate apprehension redounds to the army's good by rendering the men more amenable to hygienic restraint: immoderate apprehension demoralizes the troops and undermines discipline.

The diseases to which troops invading Cuba will be exposed, as is well understood, are smallpox, malarial fever, typhoid fever, diarrheal diseases, and yellow fever. With the exception of the last they are all diseases incident to camp-life. From smallpox, which Cubans foster because of their unhygienic methods of living, our troops are practically immune. From typhoid fever and diarrheal diseases, they can be saved in a great measure by the intelligent

enforcement of a few precautions as to food and drink. A certain amount of malaria must be expected and is unavoidable, but its ravages can be greatly curtailed by hygienic precautions and prophylactic doses of quinine, hygiene, however, being more potent than medicine.

Yellow fever is the bugbear which seems to terrorize all alike. Of course one ought not to speak slightly of this disease, but the fact should be appreciated that, whatever be its origin, it is fostered by filth and made epidemic and malignant by unsanitary conditions of life.

It has been repeatedly demonstrated that civic, domestic, and personal cleanliness lessens the liability to and the virulence of infectious disease, while not precluding the occurrence of sporadic cases.—*Med. News*.

THE HOME OF YELLOW FEVER

While all the world is discussing the possibility of a war between America and Spain, it is significant to recall that the Spanish possession—Cuba—about which the disagreement has been caused, is the worst place on the earth for yellow fever. That mismanagement and misgovernment have been mainly instrumental in causing this result, is now generally admitted. The disease is simply prevalent in consequence of the neglect and slovenliness of the Spanish authorities. No efforts are made to deal with the evil, whereas much could easily be done to suppress it. As a matter of fact, owing to the large passenger traffic which takes place between the United States and Havana, the Americans freely convey the disease into their own country, so much so that yellow-fever scares and yellow-fever epidemics cost the American Republic many thousands of pounds every year. Under all these circumstances, then, it is obvious that were Cuba to pass into the hands of the United States, the first reform which the enlightened government thereof would probably undertake would be that of suppressing the yellow fever. In the cause of humanity we can only hope that the struggle between the two nations will so terminate as to make it possible for this result to be attained.—*Med. Press*.

CURRENT TOPICS

A NEW METHOD OF STAINING THE CENTRAL NERVOUS SYSTEM

In the *Neurol Central*. (Vol. XVI, p. 727), J. Allerhand describes a method whereby materials which have been hardened in a great variety of fixative fluids, including alcohol, can be used in the Weigert-Pal technic. He uses the liquor ferri sesquichlorate of the German Pharmacopeia and a preparation of tannic acid.

Thin sections are stained for from fifteen to twenty minutes in a 50-per-cent. solution of the iron; after some washing in water the specimens are transferred to a 20-per-cent. solution of tannin, which is specially prepared, the tannin being dissolved in distilled water and boiled and then left in an open flask in the sunlight, where after a length of time moulds develop; after two or three weeks the fluid is filtered and is then ready for use. The specimens, after treatment in the iron, are placed in the tannin solution, and for from one to two hours' stay at a temperature of about 50° C. They can be differentiated by the regulation Pal methods.

J.

CARING FOR THE WOUNDED ON THE BATTLE-FIELD

The New York *Tribune*, in referring to the possibility of war with Spain and to the new order of things in hospital service during battle, says:

About ten years ago the hospital corps was organized in the United States Army, and the system has been followed by nearly all the National Guard organizations, with the result that a great hospital corps, working under identical rules and regulations, exists in the regular and citizen armies, and is so well equipped and trained that the battle-field risks have been reduced. In the United States Army there are now to every company of sixty men four who are detailed as litter-bearers. When the companies are larger there are more litter-bearers, and a full company of one hundred men would be entitled to eight men. In addition to these there are stewards and acting stewards and privates, and these men receive regular instructions in first aid to the injured.

The regulations prescribe that there shall be one hospital steward at every post, and two hospital stewards if the garrison has six companies, and one for every additional six companies. At every post of two companies there is an additional acting steward, and three privates are detained for hospital-corps duty at every post, and this number is increased when the post consists of more

than two companies. The stewards and acting stewards are men who have some knowledge of pharmacy; many of them have been licensed to practice as druggists, and the privates who are selected to act with them are always chosen because of their general intelligence, and even in time of peace these men, by constant practice, attain a high degree of proficiency in first aid to the injured.

Surgeons who took their first degree in the Civil War say that thousands of men might have been saved in the course of that conflict if the present system had been in vogue.

In the National Guard, commanding officers may cause to be enlisted in their hospital corps, or transferred to it from companies, men suitable for such service to the number of twelve for a regiment, eight for a battalion or squadron, and two for each signal corps, company of infantry or battery.

These men form a separate and distinct command. They wear a badge on the sleeve above the elbow of each arm, which is described as a lozenge of white cloth, containing in the center a Geneva cross of red cloth. The hospital corps of New York State, according to the report made by General M. O. Terry, consists of 275 trained and fully instructed men.

"Drills and practice in making and handling litters may do much toward perfecting the hospital corps and fitting its members for actual service," said an army surgeon, "but it requires actual field work to bring out the true value of the organization. The first-aid-to-the-injured instruction has made it an easy matter for the litter-bearers and the members of the hospital corps to improvise litters out of muskets and straps, pieces of wood and strips of blankets, and the men all know how to make bayonets, scabbards and shoe-soles take the place of splints until a permanent dressing may be applied. The men who render first aid are not supposed to dress the wounds of the men whom they pick up and carry to the rear, but their business is to bandage broken limbs so that the bones do not chafe and scarify the flesh, to make the men as comfortable as possible, and in all cases to stop hemorrhages. They know the anatomy of the human body well enough to apply compress-bandages at the proper places and prevent the flow of blood, and they know also when and how to administer stimulants and restoratives.

"When the man has been carried in the rear to the field hospital the work of the first-aid men is over, and the patient goes into the hands of the regular medical offi-

cers. The treatment is the same as it would be in any well-regulated hospital. There are points and features about a hospital which cannot be found in a field hospital because everything is of a temporary character, but the surgeons' kits contain everything necessary for antiseptic surgery, and the temporary operating-tables are kept as clean as the surroundings will permit. A field hospital may be a dismounted ambulance, a bar or a church or a schoolhouse, and no surgeon can make arrangements much before he needs it for the place where he will establish his headquarters.

"The object is to have the wounded beyond the line of danger, and when the place has been selected, the senior surgeon becomes the commanding officer. The tent or building is guarded and protected by a detachment of troops detailed for that purpose, the hospital flag is hoisted, and in case of defeat and retreat the wounded are moved under cover of a guard in ambulances to a place of safety—if possible."

POST-MORTEM CHANGES IN NERVOUS TISSUES

Two Italian observers, Barbacci and Campacci, in the *Riv. Patol. nerv. e ment.*, Vol. II, p. 337, review the subject of post-mortem changes in nervous tissues. They used rabbits in their experiments, and killed them usually by bleeding; examining the tissues of the cortex and spinal cord, three, six, nine, twelve, fifteen, eighteen, twenty-one, twenty-four, thirty, forty-eight, and seventy-two hours after death, the temperature in which the bodies were kept, being constant, 22° C. The parts of the central nervous system studied were:

1. Cerebral cortex about fissure of Rolando.
2. Ammon's horn.
3. Cerebellum.
4. Pons.
5. Cervical, dorsal, lumbar cord.
6. Intervertebral ganglia.
7. Superior cervical ganglia.

These parts were studied according to the following methods:

1. Nissl. Hardening in corrosive sublimate and staining with thionine after Lenhosek.
2. Methods of Golgi, using Cox's fluid and Donaggio's modification.
3. The methods of Marchi and Algeri.

The results were given only in general. The authors conclude, however, that a variety of changes ensues which are extremely difficult of interpretation, and that work done upon the cadaver should be interpreted with caution.

J.

SELECTED PAPER

PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART*

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(Conclusion)

EXERCISES IN THE TREATMENT OF HEART-DISEASE

EXERCISES have been reduced to a system in three grades: massage, the resistance exercises, or their equivalent in the mechanical methods introduced by Zander, of Stockholm, in 1872,¹ and others, and the graduated walk-exercises of Oertel.

MESSAGE

The principal object of massage is to stimulate the arterial circulation in the muscle, to hasten the venous currents, and to promote also the passage of lymph through the lymphatic vessels. The metabolism of the body is thus maintained, and secondary and therefore primary digestion improved in those who from any cause are unable to take active exercise. We have here a means of helping on the convalescent stage of acute heart-affections and of combating the tendency to stagnant circulation in those who are disabled by chronic heart-disease. Still more useful is the treatment in maintaining the circulation, and mildly but sufficiently stimulating the coronary circulation in those who, bed-ridden or sofa-ridden from any other cause, tend on that account to impairment of heart-nutrition, and suffer from chilly extremities, feeble pulse, torpid digestion, and passive congestion of the lungs. In regard to acute heart-affections, it will be gathered from what has been already said that the treatment is not to be advised. Most cases of acute endocarditis occur in young people whose hearts are not disposed to degeneration, and whose muscles, although they become weak, recover with a rapidity and develop an energy that has to be restrained rather than encouraged. The heart is always in

* Delivered before the Royal College of Physicians of London, March, 1898.

exercise, the coronaries are in full function, and whilst there is any activity or softness about the valve-lesions, our object is in no way to excite the heart to increased action. The thermometer is our guide, and, so long as there is any daily rise of temperature, all such treatment, unless for some very special reason, should be discouraged.

RESISTANCE EXERCISES

Resistance exercises, now so well known by the name of Schott or Nauheim exercises as to require no description, are governed by more complex considerations. By being brought to act successively against regulated assistance every set of muscles in the body can be exercised, and by graduating the degree of resistance and securing a short rest after each set of movements, every gradation in the severity of the exercises can be obtained.

Certain special effects are claimed by Dr. Schott and his disciples to be produced upon the heart under almost all forms of disablement and disease by the graduated exercises, in combination with aerated brine-baths; but although the effects of these two treatments are a little confused, it seems clear that in Dr. Schott's opinion the benefit of the exercises in these cases arises from:

1. The periodical and regulated stimulation of the heart leads to increased action, the muscles of that organ obeying the natural law of the relation between exercise on the one hand and nutrition or growth on the other, as surely as do other muscles in which the changes are more apparent to the eye.

2. It is further maintained by Dr. Schott and his coadjutors that contraction of the dilated heart and distinct gain in the force of the pulse, as well as relief of dyspnea, etc., are clearly observed to be rapidly induced by both baths and gymnastic exercises.

3. Schott, apparently as a later observation, finds that the gymnastic course is capable of inducing the same results as the baths, the heart being stimulated to more complete contraction by reflex stimulation of the cardiac centers through the influence of exercise upon the motor nerves (that is,

similar in effect to the influence of aerated brine-water upon the sensory nerves reflecting upon the same centers), and in this opinion Dr. Bezly Thorne agrees.

Whilst I think no one could for a moment dispute the accuracy of the first proposition—which is, indeed, a matter of every-day knowledge—there do not seem to me to be any sufficiently trustworthy data in support of either of the other two. The occurrence of shrinking of the cardiac area as an immediate effect of the bath or resistance exercises has been denied by very competent observers—Groedel, Guntz, Leyden—and the question of baths and exercises producing their alleged effects by reflex influence upon nerve-centers is still undecided.

4. Dr. Oliver has thrown some scientific light upon the effect of exercise in showing by a very simple experiment that the mass of blood in the muscles is thereby increased—so that, for example, an arm after exercise would displace a larger volume of water than before.

5. Dr. Oliver² has further shown that as a result of muscular exercises the blood thickens, the proportion of corpuscles in a given measure being increased, and he attributes this to the transfer of fluid ingredients from the blood into the substance of the muscles and lymphatic spaces.

6. Dr. Oliver quotes Brunton's and Tunnicliffe's experiments in confirmation of the previously recognized effect of muscular exercises in (1) raising and (2) lowering the blood-pressure.

7. It is probably true that the circulation through muscles in action is more rapid and easy—after the first pressure-effect of the muscle upon the vessels has passed off—and that the determination of blood to them may relieve congestion of other organs.

It is difficult to see how such replacement of blood should have any special effect in depleting the chambers of the heart except by facilitating the general circulation.

8. The effect of resistance exercises in slowing the pulse is not constant, and would naturally vary with the degree of exercise and the condition of the circulation before-

hand. Walking smartly across a room once or twice will often diminish the rapidity and increase the force for the time of a quickly and weakly acting heart.

The effect of the Nauheim exercises may then be said to be a stimulation of the heart's action, with some steadying effect and increased completion of systole, an improved circulation through the coronary vessels, and an increased mobility of the blood by its readier passage in greater bulk through the muscles, thus relieving stagnation in the great internal organs, especially on their venous side.

In what cases are these exercises to be advised? It seems to me that the carefully graduated and observed exercises of Schott and Oertel may be regarded as a counsel of perfection to be devised for those who can afford them as a preliminary to the return to that measure of active life of which their heart-condition admits, and as a guide indicative of what that measure will be, and by what degrees of ordinary exercise it may be arrived at.

Resistance exercises are especially adapted for the initial treatment of those flabby, irritable, "stuffy" hearts, if I may use the term, as applied to cases of fatty infiltration and impaired metabolism which are met with in people of venous plethora.

In cases of chlorosis with dilated heart after a preliminary week or two of complete rest, the Schott treatment is valuable if combined with a dry bracing climate and some chalybeate.

In the first, commencing failure of heart in chronic valve-lesions, the treatment may be employed combined with a more or less complete cessation from all other exercises, and similarly after such cases have been restored up to a certain point by digitalis treatment. Further, certain cases in which from the symptoms and signs we recognize the presence of atheromatous change in the coronary vessels, the treatment may be cautiously tried in combination with much rest. These cases are characterized by a certain degree of plethora and by breathlessness, attended with cardiac pain on arriving at a certain stage of walking or inclined walking exercise. If

the treatment be mainly confined to these lines, it is undoubtedly an aid to our therapeutics. There are other cases, again, in which it should not be employed. All cases of acute endocarditis, whilst there is any trace of activity of lesion remaining, are still more unsuitable for this than for the massage treatment. Cases of advanced cardio-vascular changes of the nature of sclerosis, and particularly when associated with granular kidneys, are absolutely unsuited. In cases of introspective people with neurotic hearts, the treatment is best avoided. The numberless cases of imaginary weak hearts that would naturally flock to specified "cures" require a diagnosis and a better occupation than that of indoor gymnastics. The exercises have in my experience not proved successful in tachycardial cases. For exophthalmic goiter in the early stages they seem eminently unfitted.

OERTEL'S TREATMENT

A still more pronounced treatment is the Oertel method of graduated walking exercises with a dietary restricted in fluids, a dry, highly nitrogenous diet, with avoidance of fats and a very sparing allowance of starch, with fluids restricted to thirty-six ounces a day all told, and steady walking exercises for distances and steepness of ascents adapted to the condition of the patient. The gentlest incline walks can be arranged with frequent rests, or the exercise can be pushed to the point at which deep gasping respirations are excited, and a profuse action of the skin is produced. This treatment is fully described in *Ziemssen's Cyclopaedia*. It has been replaced very much by the Schott exercises, to which, however, it may be regarded as a sequel. The guiding principles and restrictions of its use are sufficiently obvious. Its chief advantage is that it is undertaken in the open air. There is no doubt that some of the discomfort that ensues from massage and passive exercises, the unexpected sense of fatigue and languor, may often be attributed to want of good air in abundance adapted to the increased oxidation produced. And this leads me to mention another point of great importance in the treat-

ment of impaired hearts, and that is the desirability of taking full inspirations, especially during the limited open-air exercise allowed to them. The constant aspiration of the elastic lung as an aid to circulation is scarcely yet appreciated in practical medicine. I endeavored to emphasize its importance many years ago as a force of constant action even through the whole period of expiration, and as increasing with the inspiratory expansion of the lungs.³ I have been in the habit often of advising bed-ridden people to take an occasional series of deep inspirations with the view of lessening venous stagnation. Dr. Oliver in his Croonian Lectures, and quite recently in his remarks at the Balneological Society, has drawn attention to the effects of deep, slow inspirations with firm, contraction of the abdominal parietes in emptying the hepatic and other abdominal veins, and in increasing splanchnic vasomotor tone.

EXERCISE IN GENERAL

All the points that have been noted with respect to formulated exercises are common to other less regulated kinds of exertion of similar degree and severity. The wielding of a salmon-rod is a resistance exercise equal to and more amusing than any of those of Nauheim. My friend, Dr. Oliver, would find the muscles swell, the blood thicken, the blood-pressure at first rise and then fall, the venous currents quicken, and the internal congestion relieved after a similar manner. We have many of us seen for years past, perhaps since the teachings of Stokes sank into the professional mind, the beneficial effects of well-advised and guarded exercises in cases of heart-disease; it is nevertheless certain that we have learned from the advocacy of elaborate exercises by Beneke, Oertel, and Schott, and Dr. Thorne in this country, a greater confidence in their use from a more precise knowledge of their effects. Exercises of most varied kinds can be devised suitable to all degrees of cases in which any exercise at all is desirable. Level walks with frequent pauses, similarly taken inclined walks combined with a numbered succession of deep inspirations, golf, croquet, cricket, fishing, shooting, tennis, cycling, and such-

like sports taken in the open air can be graduated with considerable nicety, and are certainly, as a rule, to be preferred to mere gymnastics indoors.

Formerly weak-hearted people were not allowed to move, now they are made to walk. The swing of the pendulum is tending perhaps too much towards exercise. Schott,⁴ with the exception of aggravated cases beyond the reach of any treatment, only allows two conditions of heart to contraindicate the treatment by baths and resistance exercises, namely, aneurism and progressive arteriosclerosis, and not all the cases of the latter. One has witnessed many an apparent triumph of quickly restored strength and apparent well-being in young people with acute endocarditis, who have been too soon allowed to resume their exercises. It is only in the later months that the effects of the chronic deforming arteritis of the strained softened valves are manifested.

BATHS

The strong-brine and aerated baths of Nauheim and other places are unquestionably of much service in some circulatory disorders. They are, perhaps, most suitable for cases of chronic rheumatism and gout associated with high arterial tension and secondary cardiac disturbances. In cases of functional excitement of the heart's action in connection with quiescent or only imperfectly compensated valvular affections they may be used—in the latter cases at first in combination with more or less complete rest, then with graduated exercises. In the high-tension and less quiescent cases the higher temperatures, calculated to lower tension and stimulate surface circulation, are the more useful. In the more neurotic cases with sound hearts, the more tonic and comparatively lower temperatures may be employed of shortened duration. It is well pointed out by Dr. Groedel that the baths and exercises are two separate therapeutic agents, and that in perhaps only 20 per cent. of the cases are they usefully employed in combination, although massage may be more frequently employed. Beneke, who originated the bath-treatment at Nauheim, was very sound in his doctrine to avoid all gymnastic exercises until after the

lapse of six months from any acute endocarditis.

ACUTE HEART-FAILURE

The treatment of acute heart-failure may perhaps be best referred to in connection with that acute disease in which it is frequently met, and of which it too often forms the fatal turning-point, namely, pneumonia, in which disease the invalidating conditions affecting the heart are:

1. Stress of labor.
2. Blood-supply and nutrition impoverished and vitiated.
3. Innervation, excited and debilitated by the effects of shock and pyrexia.

All rational treatment of the early stages of pneumonia tends to lessen the blood-pressure in the lungs. It is in the latter stages, towards the crisis, when the lungs are most extensively consolidated, when the nervous excitement of early pyrexia is yielding to exhaustion, and when the blood-aëration is most defective, that acute heart-failure is apt to supervene. A running pulse, irregular from loss of vagus-control, is the first symptom, soon to be followed by edema of the unconsolidated portions of the lungs frothing up through the bronchial tract to produce that ominous tracheal rattle with which we are too familiar—these are the signs of heart-failure threatening life. There can be little doubt that an exhausted nerve-center is at the root of most of the cases of cardiac failure rather than mere overstrain from impeded pulmonary circulation, and there are two symptoms which especially tend to heart-failure, and are largely instrumental in causing the nerve-exhaustion which brings it about—namely, a temperature above 104° and sleeplessness. It will be generally noted that the failure comes on suddenly; there may have been one or two preliminary warnings of partial collapse, with running pulse and cold extremities, from which the patient may rally, but which are generally followed by more severe and often fatal attacks. At the very commencement of such signs, ammonia, which my experience would lead me to infer, after a few days of usefulness, tends rather to produce cardiac depression, should be changed for a mineral

acid, of which dilute phosphoric acid is the best. Some digitalis or strophanthus should be added to the mixture, and strychnine should be given separately, either in an extra quantity of stimulant or subcutaneously, if the absorbing powers of the patient are at all doubtful. But the most powerful remedial agent is oxygen, since it attacks one of the chief causes of cardiac failure by securing a supply of oxygenated blood to the coronary vessels, and the pulse will be observed to become slower and fuller under its influence. It should be at hand in all severe cases, and should be given in good time as an occasional inhalation. Whilst, as a rule, we need not in pneumonia attach much importance to a high temperature, in any case where heart-failure threatens it must be reduced to a safer level, that is, by a degree or two by hot or cold sponging, or if necessary by the dripping cold pack. Another question presses at about this time: it is that of sleep. Most cases of pneumonia get frequent short snatches of "dog sleep," which is all that we can expect, and serves to tide them on to the crisis, but who has not witnessed that wide-eyed delirious vigil in pneumonia, and especially in influenzal pneumonia, in which the mind is painfully alert and the senses preternaturally acute, sleep being entirely absent? I am in the habit of suggesting help for wakefulness in pneumonia in the form of a small dose of 10 grn. or 20 grn. of sulphonal taken in hot fluid at 8 or 9 P. M., and with this preliminary a 20-grn. dose of bromide taken at 10:30 P. M., is often sufficient to secure some restful sleep. When the temperature is high a single dose of 7 to 10 grn. of phenacetin may be added to the bromide. When delirium is a marked feature hyoscine in doses of 1-200 grn. subcutaneously, and repeated once or twice, may be used sometimes with great advantage. Cases of persistent sleeplessness almost invariably prove fatal with heart-failure, a running pulse, the cardiac action becoming at last merely peristaltic as the blood-clot accumulates in the auricles. Bromides, chloral, and sulphonal are almost useless, and with the gathering serum in the tubes one hesitates to give opiates. And yet I

believe that in these severe cases morphine should be given to secure a few hours' sleep, and to give the nervous system time to recuperate, and to allow of some restoration of heart-power, before it is too late. I have seen some cases in which death appeared to be averted by (1) a strong dose of food and stimulant, and (2) 1-3 grn. morphine with atropine; (3) aëration being maintained by the oxygen current being frequently played over the mouth and nostrils for a few minutes at a time. The oxygen may be warmed as it enters the bag by passing it through a coil of tubing immersed in hot water, or a modification of the little warming apparatus known as the "instal" may be used. It has seemed to me that strychnine has rather favored this peculiar sleeplessness of patients when utterly exhausted, but its power as a cardiac stimulant is unrivalled, and its use in cases severe enough to lead up to this condition is quite essential, and it may be renewed on the effects of morphine passing.

The remarks I have just made are applicable to heart-failure in pneumonia, and I have endeavored to indicate the measures that tend to avert it, and to combat it when present. I have not dealt with the treatment of pneumonia in any other sense, for to treat the vast majority of cases of pneumonia with alcohol, strychnine, oxygen, morphine, and the like, would be at best, like storming a mud hut with Armstrong guns; to use dangerous remedies in cases which require only the gentlest treatment and careful nursing is a great blunder.

The fatigue of heart that follows such tempestuous periods is sometimes very great. It is partly nerve-fatigue, and is associated with an often greatly depressed temperature, lasting for many days. It is in part also muscular fatigue. The pulse either remains very quick and very soft, or it may become very slow and vacillating. Patients should always remain in bed until the temperature, which after the crisis frequently descends considerably below the normal, has had at least a sufficient interval to return to or near the normal range, and heart- and nerve-tonics, such as strychnine, caffeine, and the hypophosphites will prove

valuable on convalescence. Exercise in these cases must be cautiously resumed, keeping well within the limits of fatigue until heart-power is quite restored. Acute heart-failure in other diseases and from other causes requires a similar handling, varied to meet varieties in the case. Time will not permit me to allude to them further. I should like, however, to draw attention to the great value of oxygen-inhalations in the treatment of heart-failure due to fatty degeneration of the organ in old people. These cases are characterized by the usual signs of a rather large and feebly acting heart, together with the irregularity of rhythm, there being, perhaps, twenty or thirty beats fairly reaching the wrist, whilst amongst them are twice as many beats which only very imperfectly do so. Cheyne-Stokes breathing is another remarkable symptom in these cases, which is especially apt to supervene after any fatigue and to come on during sleep. This form of breathing bears no direct relationship to the pulse, and is probably an associated degenerative neurosis. The employment of oxygen-inhalations several times in the twenty-four hours has a decidedly strengthening influence upon the heart, no doubt by sending some extra-oxygenated blood through the coronary arteries, and it also lessens the Cheyne-Stokes breathing and refreshes the patient. Strychnine is the most useful cardiac stimulant in these cases.

SUBACUTE OR CHRONIC HEART-FAILURE

That large class of subacute or chronic heart-failure dependent upon degeneration or other changes in the heart-wall, may be classified for the purposes of treatment into those in which the impairment is temporary and remediable, as from (1) anemia, (2) fatty infiltration, (3) overstrain, and into those in which it is permanent, as in (1) fatty or fibro-fatty change from coronary disease; (2) chronic fibroid change from other causes—syphilis, alcoholism, or associated with chronic high arterial pressure in gout, renal disease, etc.; (3) senile changes.

In anemia the atonic and badly nourished heart frequently yields before the blood-pressure, is slightly enlarged, irritable in function, and, besides the usual

hemic bruits, presents a murmur at the mitral area. Such cases are frequent in hospital practice, and it may be said that the routine treatment of cases of chlorosis bad enough to come into hospital is a fortnight's rest in bed, with the necessary laxatives and ferruginous tonics, and further treatment at a convalescent hospital.

OVERSTRAIN

The heart is capable of being severely taxed, provided it be a healthy organ in a fairly young subject, without being overstrained, the difference being that between functional fatigue and actual damage to valve or muscular wall. Of course, too frequently repeated overtaxation will cause permanent enlargement with some change in the muscular texture, not only of the heart, but also of the vessels.

It is, however, prolonged taxation of the heart extending over the period of fatigue that is very apt to cause changes of a more or less permanent kind which constitute overstrain. The irritable heart of soldiers described by Da Costa, the forms of heart-disease found so frequently in lightermen and professional athletes, are of this source. It is extremely important that in young people undergoing active growth and development, sports should be so arranged as not habitually to tax the heart and circulation beyond the period of fatigue, the point to be remembered being that young people can do almost anything in short spells or spurts, with rest between, but their hearts will not bear with advantage prolonged and fatiguing exertion, the reason being that nutritious changes of waste and restoration are quick, and cardiac innervation excitable. In full-grown adult life great exertion can be more prolonged, and as life advances the heart is much more liable to damage from quick spurts of effort than from prolonged and steady exertion.

In my belief, with perhaps the single exception that in some cases long runs and paper-chases are not sufficiently supervised with regard to the various ages and physique of the boys, the usual public-school sports are admirably adapted for them. I would here make an observation which is probably in accord with the experience of

others, although I have not seen it alluded to, namely, that in young people, especially boys between 7 and 12 years of age, it is common to find the heart relatively large, the apex-beat slightly outside the normal, the impulse of the left ventricle relatively strong. I believe this condition to be by no means abnormal, and that it is attributable to the restless activity of early youth, and to the cardiac development being somewhat ahead of the pulmonary. It would be an error to regard it as morbid.

My own limited experience of those who have overdone it in training is that they become anemic, that their cardiac innervation suffers, and that the ventricles yield from impairment of muscular nutrition. An anemic condition of such patients and an occasional hesitation in the cardiac rhythm are the earliest phenomena.

The treatment of an overtaxed heart and the lighter degrees of overstrain is simply a short period of complete rest, followed by steady but carefully graduated exercise, calculated to maintain cardiac and general muscular circulation and nutrition without exciting the heart's action or increasing the blood-pressure. I think special heart-exercises are better avoided; we do not want to make heart "crops" of our young people. Children have great powers for complete recovery in their rapid renewal of tissue.

Overstrain of unsound hearts is, of course, a matter of daily experience, and is the immediate cause which brings such cases under observation. Its treatment is involved in that of the heart-disease upon which it supervenes, and the same remark applies to the more severe effects of strain, such as rupture of valves, aneurisms, and the like.

INFECTIVE ENDOCARDITIS

The pathology of infective endocarditis will be broadly covered for our present purpose by saying that it is a disease most commonly—61 cases out of 69 (Coupland)—supervening upon valve-changes, the result of former endocarditis, that it is produced by the lodgment and local cultivation of microbes, and that its secondary results are occasioned by the toxins yielded to the blood by such organisms and by the de-

tachment of microbe-bearing fibrinous emboli, occluding vessels in various organs and parts. That the organisms regarded as capable of setting up infective endocarditis are of more than one kind—Dr. Dreschfeld⁵ enumerates twelve kinds of organisms as having been found—but that streptococci and staphylococci pyogenes are the most frequently found, pneumococci next in frequency, gonococci and others occasionally met with. It is stated that in some cases organisms have been found peculiar to the lesions.

The salient facts with regard to infective endocarditis are the frequent concomitance of previous valve-defect and exposure to sewer-gas emanations or septic absorption, and these factors will be found to underlie and initiate the whole pathology of the disease in the vast majority of instances. They are, in my belief, the objectives of our prophylactic and therapeutic treatment. A due recognition of these facts will add to the care with which, on sending a patient convalescent from rheumatic fever with endocarditis to a seaside or country resort, we should satisfy ourselves as to the sanitary condition of the house to be occupied. Obviously the first inquiry in any case presenting symptoms suggesting infective endocarditis is into his sanitary surroundings, and into every possible source of autogenetic infection, such as otitis, chronic gleet, pelvic abscess, and the like, and to at once deal with any such defect.

The next point which strikes the clinical observer is the fact that with a mild remittent fever there are associated more or less periodical outbreaks of high temperature with great fluctuations of from a few hours to two or three days' duration. We can often prevent this appalling malady, we may sometimes nip in the bud by prophylactic measures its dire development. What can we do in this treatment? Of drugs, arsenic is the only one under a course of which I have seen this disease get well. I do not remember to have seen any appreciable result from quinine, sulpho-carbolates, guaiacol, mercury, or other remedies of the antiperiodic or antiseptic class. But in the face of the dreadful mortality of at least 80 per

cent. of the cases that prevails, arsenical treatment must promptly be abandoned for any more promising remedy. And looking to the pathology of the disease, it would seem that in the modern development of serum-therapeutics there is most to be hoped for in its future treatment.

It is hazardous to trust the reports of any new method of treatment until a sufficient time has elapsed for the favorable cases which have brought it into vogue to be duly apportioned to those in which it has failed.

There have been recently reported four cases treated by the antistreptococcus serum with the very encouraging result of three recoveries. It must not be concluded, however, that this represents anything like a just account of the results of the treatment. A considerable, and as yet unpublished, experience at the various large hospitals and in private has already gone far to moderate enthusiasm for this method of treatment. I have here a table of all the cases that have come within my personal knowledge through inquiry amongst my friends and at some of the principal London hospitals. They are twelve in number, which include the three successful cases already published, seven deaths, and two in which no favorable result has ensued. Allowing for the fact that in some of these cases the antistreptococcus treatment has, from a natural hesitancy with regard to its efficiency and some timidity of possible risks in its employment, been employed only in later and almost hopeless stages of the disease when already large embolic detachments have set up centers of cultivation in many positions, the table may not be regarded as so discouraging as would at first appear. It may be laid down as a principle governing treatment by this particular serum that the more distinct the history of a previous endocardial lesion, and a subsequent exposure to infection through a suppurative medium or a sewer-gas sepsis, the more appropriate the case for the treatment. This rule would discourage its employment in cases in which the pneumococcus, gonococcus, or some other microbes divergent in character from the streptococci and staphylococci were concerned; and if with the recognition of this principle

and its earlier and bolder carrying out more encouraging results are obtained, it will certainly follow that analogous measures will be found for the circumvention of the other forms of microbic action. There is a further point in the natural history of infective endocarditis which is well illustrated in this chart—namely, that towards the close of the case, when the vital powers are at a low ebb, the temperature tends to fall apart from any treatment, and the reactions to embolic incidents are much less marked or do not occur at all. It is possible that thus if the serum be used late in the case, it may have effects attributed to it which should be otherwise accounted for.

I will venture now to allude to a case treated by the subcutaneous use of another material—namely, yeast. Although it occurred four years ago, and struck me very much at the time, it did not seem then advisable to publish it. for, as it stood, it might equally well illustrate the value of a treatment or the fallacy of drawing any deduction from a single case.

I had some months previously seen a case of infective endocarditis of long standing with Sir W. Broadbent, in which he had for a time employed yeast given by the mouth with the apparent effect that during the several weeks of the treatment the temperature had preserved a lower, although not a normal range; the patient, however, became nauseated, and would not continue the remedy, and finally died of the disease.

CASE OF INFECTIVE ENDOCARDITIS TREATED
BY YEAST

A young gentleman, aged 21, with slight defect at the aortic valve, lived in a room over an archway which covered a former inlet of the Thames, and presented a surface of stagnant Thames mud, sometimes dry, often wetted with surface water from the extended basement of an ancient building. He was given to violent exercises, bicycling, gymnastics, and engineering work, and the presumption is that he overstrained an old-standing valve-lesion. On May 15, 1895, he was taken ill with vomiting and faintness. He was seen by Dr. Davis, of Dorset Square, on the 16th, when he had a temperature of 102°, general

malaise, and a cardiac murmur of aortic regurgitant character. I saw him in consultation with Dr. Davis on the fourth day. The temperature continued raised. There were no rheumatic symptoms, nor were there any special symptoms of enteric fever. On about the eighth day he had a severe rigor, and at intervals of four or five days afterwards he would have rigors, with the temperature running up to 105°, with deep fluctuations. With the rigors there was sometimes sharp pain over the splenic region, and the spleen was distinctly enlarged. On June 1 he was removed to a perfectly sanitary nursing home, but the symptoms remained unaltered. Salicylate of soda was at first administered, and quinine was then given in 5-grn. doses without result, and moderate doses of arsenic were tried, but these drugs did not influence the symptoms. The aortic regurgitant murmur became very marked, and a curious rough, somewhat churning, but mainly systolic murmur was heard over the left auricular region.

On July 1 injections of yeast-culture (a fairly concentrated cultivation of yeast in saccharine water prepared by Messrs. Burroughs and Wellcome) was employed, 20 to 30 minims of the yeast being injected into the cellular tissue each second day, and these were steadily continued until September 1. Soon after the commencement of the yeast treatment he had acute right pleurisy with some effusion. With this interruption, the intervals of four days between the rigors, which had pretty steadily been observed, appeared broken by the yeast-injection and prolonged to six or seven days. The temperature became normal or nearly so, in the intervals, and altogether normal about August 14, three months from the commencement of the illness. The patient went to Brighton on September 1, and rapidly convalesced, and has remained active and well since. The yeast was an inconvenient and unstable preparation, although it seemed to serve a very good purpose.

Dr. de Backer, of Paris, seems to have originated the yeast-ferment treatment of microbic diseases, and it was from a reference (after my observation of Sir W. Broad-

bent's case) to his experiments⁶ with "back-erin," an aseptic preparation of fermentable material containing the yeast-fungus, that I was induced to use the yeast-preparation subcutaneously. De Backer⁷ explained the efficiency of the yeast-fungus in microbic diseases by the cells attracting into their interior and finally killing various microbes, and thus helping the germicidal function of the white corpuscles.

I have used yeast subcutaneously in four other cases, in one of the four using it also in the form of dry yeast in 30-grm. doses by the stomach, but I cannot say that any marked result followed. The cases were, it is true, all rather advanced with splenic and other embolisms. One case was a sequel to gonorrhea, one to suppurative otitis, and the other two of less defined source.

Dr. Vaughan,⁸ Professor of Hygiene and Physiological Chemistry at Michigan in 1894, advocated the use of solutions of nuclein and nucleinic acid in the treatment of microbic diseases; but I am not aware that it has been tried except in the treatment of tuberculosis, although it has been advocated both in the form of the original preparations of de Backer and as nuclein-solutions in the treatment of all microbic affections. It occurred to me that nuclein derived from the young yeast-cells may have been the material responsible for the apparent usefulness of yeast in Sir W. Broadbent's and my cases, and that it was worthy of trial in cases, at all events, in which anti-streptococcus serum would not be applicable.

The only case of infective endocarditis in which I have used nuclein is one seen by me in consultation with Dr. Christopherson, of Hastings. The effect appears to be very striking, the temperature coming down to normal for twenty-two days, after which, however, another rise occurred.

CONCLUSION

I regret that time has not allowed me to allude more fully to some forms of cardiac disease, more especially to the subject of senile and prematurely degenerative diseases of the heart. A reference to them must have been somewhat discursive, for whilst they admit of much management,

they necessarily allow of little direct treatment. And, indeed, in trying to seek out points for treatment which are scattered here and there amidst groups of symptoms, I fear I have already been too discursive. My endeavor has been to illustrate the principles of treatment rather than to touch upon details, the recognition of a neuropathic state, the principle of rest, of exercise, of drug-administration, of restrictions in diet, upon which we formulate our more precise management of individual cases. Finally, we must accept in cardiac therapeutics the principle of submission, so that we may better help patients to recognize the necessity of a restricted life caged within the narrowed limits of those conditions, under which alone life can be maintained.

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An Interesting Parasite in the Human Body

Dr. Malherle reports the following case (*Le Progrès méd.*, No. 4, 1898): A girl applied to Dr. Suibert complaining of severe pains in the left shoulder. On examination a hard, movable, red swelling was found on the scapula. The patient said that several months previously she had a similar swelling on the right side, but it went away without any treatment. The patient had fever, suffered with anorexia and insomnia, and looked very pale and emaciated. The skin was slightly jaundiced. The doctor considered the tumor of a tubercular nature and told the patient to call in a few days. On examination, it was found that the tumor had wandered down; it was two to three inches lower than at first; otherwise it was unchanged. On incision, a little serous and bloody fluid came out; on the blade of the knife was a parasite one-fifth of an inch long. An examination by the histological institute in Paris showed it to be the female larva of *Distoma hepaticum*.

R.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Röntgen Ray and Bismuth Capsules in the Diagnosis of Pyloric or Intestinal Obstruction

Drs. Boas and Dorn, in *Deut. med. Woch.* (Vol. XXIV, No. 2, 1898), report that they found that if an ordinary gelatin capsule filled with metallic bismuth is swallowed, its course through the alimentary canal may be outlined by the Röntgen ray. In cases of obstruction of the pylorus, or some portions of the intestines, this capsule is found arrested at the certain locality for days. They have made this observation by testing this procedure on fourteen patients with gastric affections, and recommend it as an excellent means of diagnosis.

S.

Massage of Corneal Opacities

Arch. d'Ophthalm. (No. 2, p. 120, 1897) gives reference to Falta's method of treating corneal opacities susceptible of absorption. The massage is done by the aid of a mercurial ointment without cocaine through the upper lid, preferably in a horizontal direction toward the angle of the eye because of the lymphatics being disposed in that direction. To confine the massage to the part that needs it, the unaffected eye is held open by the disengaged hand so that the movements may be noted. The operating hand can thus follow the movements of the affected eye, which will always be in the same direction as those of the other eye.

H.

Arhythmia of the Pulse and Its Significance

T. A. Clayton (*Univ. Med. Mag.*, Jan., 1898) is of opinion that arhythmia of the pulse is a deviation from the normal, which may find its expression in any of the following forms:

1. The pulsus intermittens, signifying the dropping of a pulse-beat; several normal beats succeed each other, and then the pulse is absent during the time occupied by one or two beats. The intermissions may occur at regular or irregular intervals, and may be either true or false, i. e., there may be a complete absence of the ventricular systole constituting true intermission (deficiency), or the contraction may be so weak as to fail to drive the blood-current

to the radials, which is known as false intermission.

2. By the pulsus alternans is understood that there occurs an alternating weak and strong pulsation.

3. In the pulsus bigeminus a full systole is after a short diastole followed by a short and incomplete systole, and this in turn by a long diastole. The coupled heart-beat is evidenced at the wrist as either the bigeminal pulse or as the false intermittent.

4. The wholly irregular pulse as to time and force is known as delirium cordis.

5. By the pulsus paradoxus is meant a weakening of the pulse during inspiration. While embryocardia and gallop rhythm are forms of cardiac arrhythmia, they have not been described, since they have no distinctive expression at the wrist. The same patient may present, at different times, several varieties of arrhythmia, or varied forms may follow each other in rapid succession. As to whether the intracardiac power is derived from the ganglia in its walls or whether it is an inherent quality of the muscle-fibers, there is still some doubt, the majority of authorities favoring the theory of muscular origin. This is shown by the fact that in 1895 Langendorff was able, by circulating warmed, oxygenated, defibrinated blood through the coronaries, to maintain the hearts of rabbits, cats, and dogs in activity after their total extirpation from the body, the fact being quite evident therefore that the rhythmic heart-beat is entirely independent of the central nervous system. Simple intermittency may be due to weakened auricular impulses, not being followed in all cases by a ventricular contraction; in this way may be produced a bi-, tri-, or quadrigeminal pulse or other varieties of intermittency. From a physiological point of view three classes of arrhythmia may be recognized, those of myocardial, nervous, and mechanical origin: while from a pathological there are six, (a) neurotic and psychic, (b) nervous and cerebral, (c) reflex, (d) toxic, (e) critical arrhythmia of acute diseases, (f) arrhythmias of cardiopathies (valvular or myocardial). Under nervous and cerebral may be mentioned meningitis, apoplexy, hemorrhage, and tumors, while under toxic are digitalis, tobacco, alcohol, tea, coffee, infections, etc. Under reflex are applied diseases of the intestines, uterus, and stomach.

From the foregoing the conclusion is arrived at by the author that an arrhythmic pulse, in the majority of instances, perhaps, may not be of serious import; it is, at the same time, so often the result of grave nervous or cardiac change that its recognition should certainly be the signal for a careful

investigation as to its probable origin. Finally, it may be said:

1. That the prognosis of arrhythmia of purely neurotic origin is more favorable, so long as the patient is unaware of the disordered heart-beat, since anxiety and worry have a marked tendency to increase the trouble.

2. That an arrhythmia which is present only occasionally is of less importance than one which is persistent.

3. That the disappearance of an arrhythmia upon exertion is, of course, favorable, while one which becomes most marked is correspondingly unfavorable, as indicative of myocardial incompetency.

4. That, generally speaking, an allo-rhythmia (rhythmic arrhythmia) is of graver prognosis than an irregular arrhythmia, since this form is so often associated with myocardial degeneration.

L.

Malarial Hypertrophied Spleen

Sem. méd. gives the following:

Iodin.....	0.25
Potass. Iodid.....	aa.. 2.5
Guaiac.....	
Glycerin (pure sterilized).....	25.0

Inject one gramme in the flank or back, the patient remaining in bed during treatment.

S.

A Method of Rapidly Identifying the Microbe of Bubonic Plague

The difficulty of identification and the trouble occasioned in working with the organism led the authors, Hankin and Leumann, *Centralbl. f. Bakt.*, No. 22, p. 438, 1897, to undertake a series of experimental researches with the object of devising some rapid method of identification.

This is done by adding to the agar-agar media an amount of salt from 2.5 to 3.5 per cent.; potassium iodide or bromide in strength of 2 per cent. was found equally serviceable.

The cultures are kept in an incubator at 37° C., and within twenty-four hours peculiar characteristic involution-forms are found.

J.

Contribution to Structure of Nerve-cells

T. Held, in the *Arch. f. Anat. und Phys.*, 1897, Abth. III and IV, presents a series of investigations of great importance to workers on the more recent methods of pathologic research.

The first question taken up is that of the significance of Nissl's chromophylic bodies.

These the author holds are artefact pictures due to fixation by acid media. He shows that portions of the spinal cord fixed with weak alkaline fixative showed in the

large cells of the anterior horns no traces of the chromophilic granules.

Alcohol fixation or plus acetic acid makes the granules very distinct. He further shows that the body after death gives an acid reaction, and that therein is the reason for the universal presence of these granules.

The paper further considers the erudite questions of the structure of protoplasm.

J.

Laryngeal Tuberculosis

Dr. J. W. Gleitsman read the opening paper on this subject at the Moscow Congress, published in *Med. Record* (Vol LII, p. 803). The condition was one to be let alone because of the hopelessness of curing the patient. This was the attitude up to recent times. But now we feel justified in using energetic means for relief of the laryngeal condition even when we cannot cure the patient. The treatment he considers under three divisions, medicinal, local, and surgical.

The writer regards the creosotal and guaiacol carbonate as curative and beneficial in many cases, and still more ben-zosol.

Locally, atomization, inhalation and insufflation will always be valuable processes. Rosenberg employed injections of menthol in olive-oil; Botey uses a 1- to 2-per-cent. solution of creosote and guaiacol in olive-oil, in the form of tracheal injections. Barton gave intratracheal injections of benzoinol, eucrophen, and menthol to ten patients, three of whom had pulmonary phthisis, with considerable improvement. Of all local remedies, the application of lactic acid or the injection of a 50-per-cent. solution beneath the mucous membrane, as originated by Krause, in 1885, is the most universally praised. Dr. Ruault has had great success with sulphuricinate of phenol, as also has Heryng. Simanowsky and Spengler employ 5- to 20-per-cent. solutions of parachlorophenol in glycerin for removing superficial nodules and ulcerations. The author can testify to its efficiency. Dr. Murray recommended enzymol as a valuable auxiliary to the curette and lactic acid.

The surgical treatment comprises incision, curettage, submucous injections, electrolysis, galvano-cautery, laryngotomy, tracheotomy, laryngectomy, and intubation.

Curettage is more favorably received within the last two years on the same ground as a tubercular joint is interfered with by the surgeon, notwithstanding the involvement of pulmonary tissue and the fact that possibly not all of the diseased tissue may be successfully removed by the process. Of this latter the author

thinks the objection will fail in properly selected cases. Hajeck repeated this operation twelve times on one patient and effected a cure. Giving due credit to Heryng, the author considers curettage indicated:

1. In cases of primary tuberculosis without pulmonary complications.
2. In circumscribed ulcerations and infiltrations.
3. In hard infiltrations of arytenoid region of posterior wall, ventricular bands, and tuberculous tumors of the epiglottis.
4. In incipient stage of pulmonary disease with but little fever and hectic.
5. In advanced pulmonary disease with distressing dysphagia.

The contraindications are:

1. Advanced pulmonary disease and hectic.
2. Disseminated tuberculosis of the larynx.
3. Extensive infiltrations causing severe stenosis where tracheotomy is indicated.
4. In the timid, distrustful, with little nerve-power.

The author recommends Heryng's double curette and Gugenheim's "*emporte pièce*."

Dr. Chappell, of New York, is credited with success in the use of submucous injections of creosote in wintergreen and castor-oil, one drachm to the ounce.

Dr. Scheppegrill, of New Orleans, claims for cataphoresis with pure copper electrodes that:

1. There is no destruction of tissues.
2. There is no reaction, no hemorrhage.
3. It does not demand as high skill as curettage.
4. It is applicable in all cases of laryngeal tuberculosis.
5. It is not painful nor irritating.
6. It generally relieves ulceration, infiltration and dysphagia.

Pieniazek says laryngotomy ought to be made only in a relatively good condition of the lungs.

Lohoff supports the general opinion that tracheotomy is indicated in stenosis and dyspnea.

The author claims progress in the treatment in the last few years. H.

On the Action of Sterilized Tubercular Glands

The classic series of observations made by Prudden and Hodenpyl, by Maffucci, Koch, and others, showing that the injection of dead bodies of the *Bacillus tuberculosis* was productive of tubercular inflammation in rabbits and other animals, has

been extended by the writer, Umberto Rosa, in the *Centralbl. f. Bakt.*, No. 22, p. 433, 1897.

Rosa used the lymph-nodes which had become cheesy; these were sterilized by steam under pressure or by filtration through a Chamberlain filter and injected into rabbits.

The results obtained by the writer were negative, thus standing in direct opposition to those done with the dead bodies of bacteria.

This fact the author explains on the hypothesis that the lymphatic nodes contain some substances which render the toxic materials of the tubercle bacilli inoperative.

J.

A Case of Hydroa Estivale

Dr. Colcott Fox presented a case at the meeting of the Dermatological Society of London (*Brit. Jour. Derm.*, Dec., 1897). A girl aged 9 years, apparently in excellent health, with the exception of an eruption localized to the face, ears, and upper part of the neck. These regions were covered thickly with small, but distinct scars, as if the child had suffered from variola. Amongst these superficial scars were a few deeper ones, due to varicella. A few itching, soft, inflammatory papulo-vesicles, the size of a mustard-seed, were scattered about these regions. When first seen during the summer months there were more numerous clear vesicles, like the early lesions of some forms of impetigo contagiosa. The history obtained was that the child had been subject to this eruption from birth, and that the eruption always began to get worse in spring, and was at its worst in summer. The hands were also in the summer slightly affected. The exhibitor suggested the diagnosis of hydroa estivale, which was generally accepted. G.

Suckling and the Typhoid Bacillus

Talamon and Castaigne (Ref. *Brit. Med. Jour.*, April 2, 1898) observed two cases of typhoid fever in women suckling their infants. The first patient had been delivered three months when the fever set in. The milk and the blood exhibited clearly the agglutinative properties of Eberth's bacillus.

The blood of the suckling did not agglutinate. The second mother was taken ill with typhoid fever four months after delivery. The agglutinative power in the blood and milk was very strong. The infant had suffered for a month from severe gastro-intestinal disturbance. Then its blood was found to agglutinate and it was weaned. The agglutinative power diminished, and at length disappeared. The child

was again put to the breast, and very soon its blood again agglutinated the bacillus of Eberth. Talamon and Castaigne believe that the intestinal irritation in the case of this infant was not an effect, but rather the cause, of the agglutinative principle being passed with unusual ease and rapidity into the circulation. G.

The Modern Treatment of Locomotor Ataxia

Dr. F. W. Langdon says that the revolution in our conception of the pathology of tabes has worked a similar revolution in its therapy. The mere fact that we have not primarily a sclerosis to deal with renders the indications for treatment more clear and the prognosis less gloomy (*Med. Rec.*, Vol. LIII, p. 41). It is conceivable that early diagnosis and efficient treatment while the destructive changes are limited may bring about an arrest of the disease, and even a certain amount of restoration of lost function by (1) limiting the degenerative process to a small number of neurons; (2) by possible reproduction of certain nerve-endings, as in ordinary multiple neuritis from alcohol, lead, etc; (3) by promoting an increase in functional power in endings still competent, but lowered in vitality and function.

In the modern treatment of tabes, the old idea of giving alteratives, mercury, and potassium iodide, for their (doubtful) absorbent effect on cicatricial tissue, is giving way to measures addressed to the nutrition of the neuron. There being no syphilitic exudations in true tabes, antisiphilitic treatment is uncalled for. Diet, hygiene, rest, are the main factors in the successful management of the disease. Digestion, assimilation, elimination, must be promoted. Climate, medicines, and electro-therapy are of distinct value.

Distressing symptoms, the "lightning pains," etc., are to be alleviated without impairing the general nutrition. Opiates are better avoided.

Rest in bed is very valuable. The patient should sleep much and work little. The diet should be liberal—meats, fats, milk, water in abundance, and fruits, with a minimum of starchy and saccharine foods. Alcohol is to be prohibited.

The patient should wear warm clothing, and if possible spend his winters in a warm climate. The skin, kidneys, and bowels should be stimulated to the elimination of autotoxins. Drugs of more or less use in treatment are those of nutritional value, mainly phosphorus, iron, cod-liver oil, with tonics, such as strychnine.

For the lightning pains aluminum chlor-

ide (dose 2 to 4 grn. in water) is a drug of considerable value.

Electricity is of distinct value in a large proportion of cases. Ordinary faradism is useless, galvanism better. The writer's experience has led him to value highly that form of electricity known as the "sinusoidal" current. It is a current of high potential, rapid alternation (480 to 1920 per second), and comparatively small amperage. Its application is simple and controllable, as well as pleasant to the patient. It is administered by means of a foot-plate and a neck-electrode for from five to fifteen minutes every alternate day for six weeks. Under its use, with simple hygiene and often without drugs, the lightning pains cease, the ataxia disappears and the general well-being of the patient is promoted. This six weeks' course of treatment may be repeated once or twice yearly. Patients treated by the foregoing methods have been under observation for nearly two years without return of the pains or ataxia. At the conclusion, the author says that the prognosis of locomotor ataxia is distinctly more hopeful now than it was several years ago. R.

Granuloma Trichophyticum Majocchi

Pini (*Arch. f. Derm. u. Syph.*, Bd. 42, Heft 1), after summarizing the history of this unusual form of trichophytosis, reports three cases of his own. His conclusions are as follows: That there exists a clinical complication of herpes tonsurans differing from that of kerion and sycosis. The granuloma trichophyticum nodules are flat, rose-red or cyanotic, arranged in chains, developed slowly, frequently softened, but never suppurated.

Histologically they differ from the sycotic follicular nodules, being similar to a granuloma.

The etiological factor is the trichophyton which inhabits the granuloma in the form of hyphæ and spores. W.

Alkaptonuria

Thomas B. Fletcher, of the Johns Hopkins University, discusses the subject in the *N. Y. Med. Jour.* (Jan. 15, 1898). The term alkapton was first applied by Boedeker to a substance which he found in the urine of a patient, and which possessed two chief characteristics: First, the power of reducing alkaline copper solutions, and secondly, the property of absorbing oxygen from the atmosphere in the presence of an alkali and as a result becoming a dark brown or black. Alkaptonuria, or the presence of alkapton

in the urine, has apparently no pathological significance, and has no influence on the health of the subject, but its great importance lies in the fact that it is so easily mistaken for glycosuria or diabetes. The following case illustrates this. A robust, healthy-looking man, 57 years of age, consulted Dr. Osler. He stated that he had repeatedly made applications to insurance companies, but that each time he had been rejected on account of the presence of sugar in his urine. He then consulted an eminent German and two well-known English specialists, all of whom told him he was suffering from diabetes. He went to Carlsbad, where he was treated for the disease. He had none of the usual symptoms of diabetes, such as intense thirst, voracious appetite, emaciation, and polyuria. Dr. Osler sent a specimen of the urine to the author. What first struck the author was the intensely deep reddish brown of the urine. On applying Fehling's test there was a reduction of the copper sulphate, but the supernatant liquid, instead of being decolorized, retained a brownish black. Other tests for sugar: the fermentation test, Boetger's bismuth test, and the phenyl-hydrazine test, were applied, but they all gave negative results. Optically, the urine was inactive. Though the author was fairly certain that the substance in that specimen of urine which reduced the copper sulphate was not sugar, he became absolutely so when he looked up the literature of the subject and found that the reactions described above were exactly those of Boedeker's alkaptonuria. The chief characteristics of the urine in the condition known as alkaptonuria may then be summarized as follows: The urine is usually from a straw to amber-yellow color when first voided, assuming a gradually deepening reddish brown to black on exposure to air, owing to the absorption of oxygen. The specific gravity is, on an ordinary diet, 1.010 to 1.014; with excessive meat diet 1.014 to 1.020. The average quantity in twenty-four hours is four pints; with excessive meat diet, three pints. On adding a few drops of an alkali and shaking, the urine assumes almost instantaneously a reddish brown. The copper sulphate in Fehling's solution is reduced on the application of heat. The urine does not respond to the bismuth, phenyl-hydrazine, fermentation, or polariscope tests for sugar.

Other points of interest in connection with this condition are: Alkaptonuria occurs both in children and in adults. In some cases it has existed in children throughout life. Quite frequently it affects several members of a family. Thus, Kirk found four children affected in one family. Bau-

man's patient had a sister with the same condition, and a brother of the author's patient also had alkaptonuria in his urine. In one case, that of Geyger, the condition was associated with true glycosuria.

Treatment: Nothing should be done, as the condition has no pathological significance. [The author's case is the fourth case of alkaptonuria described so far in this country.] R.

Pathology of Fever

In a recent communication to the *Fortsch. d. Med.*, Vol. XVI, p. 121, 1898, Dr. Moxter, an assistant of Professor Goldscheider, of Berlin, reports the results of a series of experiments on the effects of heat on the cells of the guinea-pig's brain and spinal cord. Goldscheider had conducted some similar experiments a year previous, but had exposed the animals to the action of heat without exposing the brain directly. Moxter trephined the animals, and after their recovery exposed them in an incubator to temperatures ranging from 98.6° to 106° F.

He states that a twenty-four-hour exposure to a temperature between 104.9° F. and 106.7° F. results in serious changes in the ganglion-cells of the spinal cord and of the cortex; these changes were more marked in the cervical region. When the temperature ranged between 100.4° and 106.5° F., but intermittently, there were no marked changes, and by constant exposure for twenty-three hours to temperatures ranging between 102.4° F. and 105° F. no changes were induced. The kind of changes noted consisted in general chromatolysis similar in some respects to that observed following some of the acute poisons. J.

Comparative Value of the Diazo-reaction and the Blood-serum Test in the Diagnosis of Typhoid Fever

J. P. Barber (*New York Med. Jour.*, April 16) endeavored in a typhoid epidemic in Minneapolis to contribute something to the definition of the limitation of these tests. He made 751 serum-tests from 205 of his patients; 156 of these showed a positive and 49 a negative reaction. In no case in which a positive reaction was found could the diagnosis of typhoid be positively excluded, and in no case in which the reaction was absent could a positive clinical diagnosis of typhoid have been made. The diazo-reaction was present in 128 of the 156 cases, absent in 9, and no test was made in 19.

The reliability of the diazo-reaction is much impaired by the fact that it appears in other diseases. The author has found it in

tuberculosis, measles, scarlet fever, diphtheria, mumps, and erysipelas. An interesting feature of the serum-test which somewhat impairs its reliability is the fact that it disappears or becomes extremely weak during the course of the disease, and reappears again in a day or two.

The author's summary is that the serum-test has proved the more reliable as it appeared in every case but one. The diazo-reaction had the advantage of appearing earlier in the disease in twice the number of cases. In almost every case in which the serum-reaction appeared first the diazo-reaction was present on the following day. The diazo-test is, he considers, by far the better for the general practitioner. No expensive laboratory apparatus is required. It is easily and quickly made, and with a little experience the reaction can be detected in nearly every case. The diagnosis should always be confirmed by the presence of the serum-reaction.

Diseases of the Nervous System Caused by Gonorrhea

Dr. Max Kahane (*Klin.-ther. Woch.*, 1898, Vol. V, pp. 40, 80, 110, and 183) concludes an elaborate article on this subject as follows:

1. Compared with the enormous frequency of gonorrhea, gonorrheal affections of the nervous system are of relative seldom occurrence.

2. The etiology of these nervous diseases has not yet been firmly established. It remains for future investigators to determine whether they are caused by the gonococcus or by a mixed infection.

3. The existence of gonorrheal affections of the nervous system is not only possible but most probable; however, attention must be paid to the fact that the gonococcus is able to produce a general infection of the organism, which we may designate by the term gonococcipyemia. Just as pyemia, by metastasis or extension of the infection through contiguity of structure, can produce lesions of joints, synovial and serous membranes, and also of the nervous system, so is it possible that gonorrhea may cause organic nervous disturbances either by direct extension or by metastasis.

4. As discovered by Wertheim, the gonococcus is not always a mere parasite on the surface of the mucous membrane, but it can force its way into the submucosa connective tissue, and can produce suppurative inflammation of the serous membranes, and what is of great importance, the production of the gonococcus in the walls of the blood vessels, and a thrombo-

5. These nervous affections have nothing in their symptomatology which is of a special or specific nature. And we may only prescribe their causation to gonorrhea when we can prove the existence of a gonorrheal infection, and preclude from the etiology all other known causes.

6. The circumstance that in the large majority of cases of nervous affections dependent upon gonorrhea for their origin, a gonorrheal arthritis precedes the appearance of the nervous symptoms, has led many authors to believe that these nervous diseases are dependent upon other sources than gonorrheal infection for their etiology. But, on the other hand, it must be noted that nervous diseases associated with gonorrhea, occur without any preceding arthritis, and that the only nervous symptoms which in any case can be shown to be dependent on the arthritis, are those which may be produced by arthritis not of specific origin, namely, muscular atrophy and increased reflexes; so that it must be considered that the nervous affections are independent of the arthritis, and that both the arthritis and nervous symptoms are simply contemporaries and should be considered as the result of a general infection.

7. Taking it as a whole, the chapter of nervous affections associated with gonorrhea is still small and undeveloped.

In this article it has been the purpose, by utilizing such clinical and pathological material as has been obtained, to present a picture of the present extent of our knowledge of these diseases, especially as regards their clinical history. But on account of the scarcity of material these representations must be very incomplete. T.

Bilateral Syphilitic Ulceration of the Auricle

Dr. M. A. Goldstein reports a case (*Laryngoscope*, Jan., 1898) of tertiary syphilis involving both auricles simultaneously and occurring without any other syphilitic manifestation in the rest of the body. The case occurred in a colored porter 25 years of age. The ulcerative process involved the anterior surfaces of both auricles, and was present on the lobule, concha, tragus, lower section of the helix, and extended slightly into the meatus on the right side; the left auricle was affected in a slightly milder form. The patient admitted that he had had a sore on his penis six years ago; the scar on the penis, seen on examination, corroborated this point. A careful search for specific lesions or their results in other parts of the body proved negative. There had been no naso-pharyngeal trouble. The middle ear was found to be en-

tirely normal. The only trouble of any kind noted was a number of carious teeth on both sides of the lower jaw. As the inferior maxillary nerve, a branch of the tri-facial, is distributed to the teeth and gums of the lower jaw, as branches of the inferior maxillary (posterior temporal and inferior auricular) supply the auricle, this area of dental caries may have been an irritating and causative factor in the appearance of the lesions on the external ear.

The absence of all other lesions and data made it a matter of some difficulty to establish the diagnosis of tertiary syphilis. Without a history of secondary eruption, and with no lesion of any kind existing simultaneously with the ulceration of the auricles, the chain of syphilitic evidences was imperfect. The diagnosis, therefore, was arrived at mainly by a process of exclusion, by the appearance of lesions on the auricles, and by the prompt response to the anti-syphilitic treatment applied.

One of the most interesting features of this case was the reduction of these deep ulcerations in two weeks' treatment with 15 drops of potassium iodide (saturated aqueous solution) administered three times daily after meals. The only other medication used was oxide-of-zinc salve, spread daily over the ulcerated areas, after thorough removal of the crusts and pus.

Two weeks after this mild therapy had been introduced, no trace of the ulcerations presented in the photograph which accompanied this case, was visible beyond the slight interlinear scarring so characteristic of syphilis.

Not even the slightest occlusion or narrowing of the meatus has taken place. A slight deformity of the helix and lobule is visible on close inspection. G.

Tuberculosis of the Stomach

Dr. Blumer reports a case and states he has examined the literature of the subject and finds but thirty cases on record (*Albany Med. Annals*, March, 1898). In all the cases recorded the tuberculosis in the stomach was secondary in character. In his case there were found post-mortem: an old caseous area at the apex of the right lung, general miliary tuberculosis, tuberculous ulcers of the stomach and ileum, tuberculosis of the kidneys and also of the aorta. The lesions in the stomach consisted of several small, shallow, circular ulcerations, with numerous miliary tubercles around them, and numerous tubercle bacilli were found in them. Basing himself on his own and on all the reported cases, the author enunciates the following conclusions:

1. The acidity of the gastric juice as a

factor in preventing the action of the tubercle bacilli on the gastric mucosa has been overestimated by the older writers, but rather underestimated in recent years. In a healthy condition of the mucous membrane it is probably sufficient to prevent the development of the bacillus; in diseased conditions it is not.

2. There is no proof that the lack of lymphoid material in the gastric mucosa bears any relation to the rarity of gastric tuberculosis.

3. In multiple tubercular ulceration of the stomach, vascular disturbance, either in the form of hemorrhagic erosions or of some other factor interfering with the blood-supply of a part of the mucosa, in all probability plays an important part. It does so by creating an area of lessened resistance.

4. Large, single, tuberculous ulcers are probably due to direct extension, from tuberculous lesions, external to the stomach, to extension from the serous coat of the organ, or to the inoculation of tuberculous material on a pre-existing simple ulcer.

R.

Nucleo-albuminuria

Sivgard Madsen, *Norsk Mag. f. Lægevidensk.*, No. 58, p. 539, collects into convenient form what is known of this subject. He believes it to exist as a particular pathological state, and shows that it has a special symptomatology, and also points out its relations to other kidney-diseases. J.

Normal Salt-solution—The Various Methods and Indications for Its Employment

Dr. P. Findley concludes an article on the above subject with the following summary (*Med. Stand.*, April, 1898):

1. Where normal salt-solution is indicated, enteroclysis is the method of choice, providing there is time to await its effect.

2. The body-temperature, vascular tension, renal, cutaneous, and intestinal secretions, are influenced in direct ratio to the temperature of the injected fluid.

3. Injected solutions of high temperature, however, may lower the body-heat by promoting the excretions.

4. A solution of 60° to 70° F. given within the colon, will first stimulate and later depress the blood-tension and the secretions of the skin and kidneys. It is therefore to be used with caution, particularly in renal insufficiency.

5. In the subcutaneous method we have all that is required, when immediate effect is desired, except where abdominal section may indicate intraperitoneal injections; where the withdrawal of a quantity of blood

has made it possible to give intravenous injection with the least possible loss of time; and where the serous cavities have been relieved of a quantity of fluid which may be replaced by normal salt-solution.

6. As a rule, no time is gained by the employment of the intravenous method, which should only be used when preceded by venesection for the withdrawal of a quantity of blood.

7. In intravenous injections it is possible to cause death from too great dilution of the blood, an accident quite impossible in hypodermoclysis or enteroclysis.

8. Normal salt-solution is indispensable in the treatment of alarming hemorrhage, and is of great value in the treatment of the various toxemias, and in renal insufficiency.

9. After the removal of a large quantity of fluid from the pleural cavity, the salt-solution may be injected into the cavity as a substitute for the effusion, and will thereby lessen shock and relieve septic infections.

10. In cholera and cholera infantum, normal salt-solution is invaluable as a substitute for the lost serum.

11. Venesection with the withdrawal of a quantity of toxic blood is indicated in toxemias, where the patient is plethoric, and should be followed by intravenous injections of an equal or greater amount of normal salt-solution.

12. In hemorrhage normal salt-solution maintains the circulation by adding to the volume of the circulating fluid which would otherwise stagnate in the veins, because there is not sufficient volume for the heart to propel.

13. In toxemias normal salt-solution dilutes the toxins of the blood and favors their elimination by stimulating the excretory organs.

R.

Neuralgia Treated by Injection of Osmic Acid

At a recent meeting of the Medical Society of London, G. R. Turner (*Brit. Med. Jour.*, April 9, 1898) showed a woman, aged 33, who had been the subject of neuralgia (for two years) which had resisted all treatment. The pain originally involved the infraorbital nerve, but had extended to other divisions of the fifth, and had been accompanied by a discharge from the right nostril. Nothing abnormal could be detected in connection with the nasal fossæ or antrum. Before exploring the antrum as a preliminary, if necessary to the removal of the Gasserian ganglion, he injected a 1-per-cent. aqueous solution of osmic acid into the infraorbital nerve, this being done by means of an ordinary hypodermic syringe into the infraorbital canal. Consid-

erable pain and tenderness resulted, and when in the course of ten days this passed away the patient had lost the pain, which had not since returned. He suggested that the nerve-fibers were destroyed by the acid, an aqueous solution being preferable to a glycerin one for this purpose.

G.

Transitory Paralysis Produced Experimentally by Means of Intracranial Injections of Cocaine

According to Drs. Comte and Rist (*Arch. de Gine., Obs. y Ped.*, No. 3, 1898), experimental transcranial cocaineization of the various regions of the cerebrum constitutes a simple and rapid method of demonstrating the functions of that organ. In fact, it is possible to produce, by means of cocaine injected into the cerebral substance, very limited and transitory paralysis, without injuring the animal's general condition. The animals experimented upon returned to their normal status about half an hour after being subjected to the injection.

G.

Trigeminal Neuralgia.

Prof. Fedor Krause says that in three very severe cases of trigeminal neuralgia he has had excellent results from aconitine nitrate, Merck (*Centralbl. f. d. ges. Therapie*, April, 1898, pp. 223-225). This powerful remedy must be administered with caution. Its maximum dose is 1-2 mg. (1-128 grn.). He prescribes a 1:1000 aqueous solution (2-5 of a grn. in 6 1-4 dr.), and of this he gives one drop every hour for ten hours in succession for the first day, two drops every hour the second, etc., until on the sixth day six drops every hour for ten consecutive hours are given. At this dose he usually stops. When absolutely no bad by-effects are noticed (such as inclination to vomiting, crawling in the fingers, numbness of the tongue), he sometimes increases the dose to eight drops ten times a day. The remedy is continued for several weeks.

R.

Sleep in Relation to Diseases of the Eye

J. C. Lester and Vincent Gomez contribute an interesting chapter on the above subject to the *January Reports, 1898, of the N. Y. Eye and Ear Infirmary*.

First taking up the physiological conditions in sleep in which anemia of the brain and slowed respiration and heart-action are mentioned, they make incidental mention of Dercum's theory of the neurons, based on amoeboid movement of the nerve-cells, which requires the neurons when functioning to be in relation with each other, and at times, as in sleep, to be retracted and out of contact. They especially emphasize Hughlings Jackson's observations as to the

condition of the retina during sleep, the disc and adjacent retina being then paler.

In physiological sleep, in addition to slower pulse-rate and respiratory activity, the secretions are smaller, peristalsis is less, there is marked myosis, and the eyeballs rotate upward. Pupils dilate widely on waking. During sleep the sphincter iridis and the orbicularis palpebrarum act more strongly than when the patient is awake.

Sleep may thus be inferred to be of therapeutic value, especially in intra-ocular lesions. Myopes of high degree, subjects of congestion, whose eyes are rested by routine use of atropine, would be greatly helped by full sleep, natural or induced, which throws out of use the extrinsic muscles of the eye—these muscles being overworked from increased effort for convergence.

Intra-ocular hemorrhagic changes, degenerative or traumatic, especially if in the macula, need and will respond profitably to natural full sleep.

Sleep is of the highest importance in commotio retinæ and in detachment of the retina.

Cases of exophthalmic goiter are relieved by slowing of the heart-action induced by deep sleep. H.

The Diazo-reaction in the Urine of Nursing Infants

Dr. Umikoff has made numerous investigations on the occurrence of the diazo-reaction in the urine of young children. In erysipelas and in measles the reaction is almost always present (*Jahrb. f. Kinderheilk.*, Vol. XLVI, Nos. 1 and 2). The severer the disease the more intense the reaction; while during convalescence, the reaction begins to disappear. Of very great interest is the author's observation, that in the great majority of cases, the reaction appears from two to three days before the death of the child, no matter what the disease may be. The author says that in all cases where the diazo-reaction is very distinct, a very guarded prognosis should be given. Occasionally, the reaction appears in the prodromal stage. R.

Treatment of Syphilis

W. Murray (*The Lancet*, March 5) protests against the administration of a course of mercury or the iodides with the idea that a steady course of either or both will in time effect a cure if a cure is to be obtained by medicine.

He emphasizes the fact that each time the disease recedes under specific treatment it may redevelop itself and reappear in a milder or more severe form, requiring a fresh course of mercury or of iodide, and

it is necessary to watch the symptoms carefully when giving mercury, cutting it off when the symptoms stand still or get worse. At this juncture a bold administration of quinine will often act like a charm, and it may be safely combined with potassium iodide. Five or six grains of quinine three times a day is enough, and it will work with 15-grn. doses of potassium iodide. Another resource which may succeed when all medical treatment has failed, is "pure air, highly nutritious diet, and good wine."

Morphomania

Dr. Hale White, in *The Hospital* (April 2, 1898), describes the symptoms and the consequences of morphomania. The patients are generally thin, sallow, and anemic; they look prematurely old, their hair falls out, their teeth decay, their nails become brittle, and there is often great constipation. There is loss of sexual desire and sexual power. There is indigestion, the mouth is dry, the pupils contracted. The skin is, as a rule, dry, although at times the perspiration is increased. Slight pains, tremor, and ataxy may occur as shown, for example, in the writing.

The chief difficulty in the diagnosis arises from the patients being so deceitful, but this can be got over by isolating each for a day. There is such an irresistible craving that they confess at once.

The prognosis is grave. Seventy per cent. relapse after being cured, and as practically no one gets well after taking to it a second time, out of the 70 per cent. of relapses there are no cures. In regard to treatment, Dr. White advises most absolute and complete isolation, after a thorough search for hidden morphia, and then a gradual reduction of the dose. S.

Some Characteristic Symptoms That Help in the Differential Diagnosis of Iritis

W. H. Baker (*Virg. Med. Semi-Monthly*) says that as the characteristic symptoms and signs are common to the plastic, parenchymatous and the serous types of the disease, and the results of maltreatment are about the same in one or the other, he uses the term iritis and not conjunctivitis or glaucoma as is occasionally done. In iritis, the redness lacks the velvety appearance of conjunctivitis, and is caused by an injection and meshing of the vessels of the sclerotic coat, particularly apparent at the corneo-scleral junction; furthermore, on drawing the lower eyelid downward, it will be noticed that the injected vessels do not move with the conjunctiva, but remain stationary. In the early stages of iritis, the pal-

pebral conjunctiva is unaffected. It is important to recognize the disease as early as possible, in order that remedies may be used successfully for the prevention of synchia, for after the disease has continued for several days, the conjunctiva becomes more or less involved. In iritis, there is always considerable lachrymation and severe pain referred to the supra-orbital region, which increases as the night advances, with intense photophobia. Again, in comparing the disease with the healthy eye, a lack of brilliancy in the coloring of the fibers of the iris and a muddy or cloudy appearance of the pupil is noticeable; also on testing the activity of the pupil it will be seen that the iris is much more sluggish in its movements. The patient will complain also of dimness of vision and an inability to use the eye without much pain. When the eye is examined with a reasonable amount of care, it is very apparent to the most casual observer that there is a wide difference between iritis and conjunctivitis, yet the mistake is made with comparative frequency, accompanied with dire injury to the eyesight if the greater be mistaken for the lesser trouble. Surgical procedures for the purpose of destroying adhesions formed between the iris and the anterior capsule of the lens, because of a previous rapid and too casual examination, are very dangerous to integrity of the eyeball, as a secondary iritis may follow the most carefully and skillfully performed operation. This fact makes it important to recognize the trouble early, so that the proper remedies may be used vigorously, as then surgical interference in the future will be unnecessary. The author suggests, in addition, the form of treatment in iritis. L.

Tuberculous Peritonitis Treated by Tapping and Injections of Oxygen

At the meeting of the Medical Society of Lyon (*La Méd. mod.*, Vol. IX, p. 118) presented a patient who had been brought to him with the diagnosis of tubercular ascites, but whose general condition was so low that he considered laparotomy contraindicated. The patient's history was very bad; five years ago he had to undergo an operation for the removal of a tuberculous testicle; he then developed a number of abscesses in the abdominal wall, and a year later he underwent a resection of the wrist. He was now tapped about every two weeks, and at each tapping about twelve liters (one and a half gallons) of a turbid liquid were removed; after each tapping oxygen was injected into the peritoneal cavity. Under this treatment the effusion became less and less, and finally disap-

peared. The patient's general condition improved to such an extent that he resumed his work (whether the improvement is a permanent one or not remains, of course, to be seen. At any rate, the method deserves further trial). R.

The Etiology of Sunstroke (Siriasis) Not Heat-fever but an Infectious Disease

L. Westerna Sambon (*Brit. Med. Jour.*, March 19) believes heat-exhaustion to be nothing more than syncope and thermic fever a specific disease which he speaks of throughout his paper by its oldest name, siriasis. The symptoms and conditions of siriasis differ widely from those of syncope. Siriasis is an acute disease characterized by hyperpyrexia, profound coma, and intense pulmonary congestion. Its mortality is exceedingly high. It prevails in the hot season and occasionally in an epidemic form.

The author cites in detail the symptoms of the disease, its relapses, its morbid anatomy, its peculiar geographical distribution, its epidemic outbursts, the conditions of climate and soil under which it prevails, the relative immunity to its attacks afforded by acclimatization as all clearly pointing to the specific infectious nature of the disease.

Tetany and Auto-intoxication

Kassowitz, in the *Wiener med. Presse*, 1897, Nos. 4 and 5, states that whereas in the summer months, when the various digestive disturbances are very prone to engender conditions favorable to auto-intoxication, tetany is very rare, and that it increases in autumn and winter. Furthermore, children affected with marasmus, constipation, and chronic intestinal affections do not seem to develop tetany. Rachitis and tetany are, he believes, closely allied, and have a causal relationship to one another. Reasoning from the therapeutic action of phosphorus, which has no effects on auto-intoxication and is very useful in tetany, he would further separate the conditions. The essential lesion he believes to be a chronic hyperemia of the bones of the skull with inflammatory points and an extension to the cerebral cortex. J.

Venesection in Uremia

In the *Deut. med. Woch.* (1898, No. 9) Dr. Laache reports three cases of uremia, in which venesection was employed. The condition of the patient became rapidly improved, the convulsions ceased, the pulse became soft, consciousness returned, and diuresis became established. The quantity of blood withdrawn varied between 500 and 600 c.c. (twelve to twenty ounces). R.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
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A Retractor for the Intestines

Karl Roser (*Centralbl. f. Chir.*, Berlin, 1898, XI, pp. 297-300) describes an instrument devised for the purpose of holding the intestines back out of the way during abdominal operations. The apparatus is made by soldering together the ends of a steel wire sixty-two centimeters long and two millimeters thick, so that it forms a ring. The wire should be of such a temper as to allow of its being bent to fit the individual needs, at the same time being of sufficient elasticity to keep its shape and maintain enough pressure on the surrounding structures to hold the required position. The deleterious effects following pressure on the tissues may be overcome by covering the wire with rubber. Either gauze or lint is stretched over the ring. This instrument is of especial advantage in operations in the pelvis when the Trendelenberg position is contraindicated, and also in operations in the region of the gall-bladder, and it is useful in all abdominal operations where it is essential to keep the intestines out of the way. T.

Sphincterectomy of Iris

De Wecker (*Ann. di Ocul.*) finds that a very small marginal iridectomy is often a necessary supplement to the tattooing of a central corneal nebula if good vision is to be obtained. The iridectomy must be confined to the sphincter iridis, and not involve the dilator fibers. The points and limbs of the iris-forceps must be extremely fine. The effect of the sphincterectomy should be to render the pupil somewhat oval in shape. G.

Stone in the Bladder, with Hypertrophy of the Prostate Gland

Dr. Orville Horwitz reports in the *Therap. Gaz.* (Feb. 15, 1898) four cases of stone in the bladder, in which on account of hypertrophy of the prostate gland a positive diagnosis was impossible. Only after double castration was performed, which resulted in atrophy of the gland, the introduction of a stone-searcher became possible and the diagnosis was established. Basing himself on those cases the author makes the following conclusions:

1. In cases of hypertrophy of the prostate, where enlargement is so great that a stone-searcher cannot be passed, or if it can be in-

serted, a thorough exploration of the bladder cannot be made, a positive diagnosis of calculus is not possible.

2. In such hypertrophies a double castration is an entirely justifiable operation, as a preliminary measure to cause shrinkage of the hypertrophied prostate, provided the patient has already lost his virile power and is otherwise a proper subject for the operation.

3. Where a calculus cannot be detected by the X-rays and the entrance to the bladder is so obstructed by the prostate that a stone-searcher cannot be properly utilized, the surgeon is not to be held blameworthy if he fails to make a positive diagnosis as to the existence or non-existence of a vesical calculus.

4. In all such cases where double castration is recommended, the patient should be told of the possibility of the existence of a vesical calculus, that can only be detected with certainty after the gland has become sufficiently atrophied to allow of the passage of the sound. Should a calculus be present it can be readily removed by a subsequent operation. R.

A Case of Concussion of the Brain Simulating Delirium Tremens

This case was reported by Dr. J. R. Ambler in the *Jour. of Mental Science* (Vol. XLIV, No. 184).

A man, aged 50, was admitted to the asylum on Oct. 4 and died on Oct. 15, 1897. The medical certificate stated that he was suffering from delirium tremens.

On admission the left side of the face was much bruised, both eyes blackened, and there was a wound on the nose; coagulated blood was formed in the left ear. Mentally he was dazed and stupid, restless, muttering, and incoherent in conversation.

The history was that while on a voyage some days previous to admission he had a serious fall which rendered him unconscious for a time. He, however, recovered sufficiently to attempt the journey home, and was found wandering about the town of Crewe, and was taken to the asylum by the police.

For three days after his admission he improved, became more coherent and rational, and was able to answer questions. Three days later he relapsed into his former rambling, restless state, and gradually sank. Throughout the day of his death he was unconscious, with stertorous breathing, and died somewhat suddenly.

The post-mortem examination was held thirteen hours after death. The calvarium was normal. A large quantity of serous fluid escaped on opening the dura, which

was firmly adherent along the side of the superior longitudinal sinus. The arachnoid and pia were normal.

There was an effusion of blood on the surface of the brain in the Sylvian fissure and adjoining sulci on both sides, also on surface of left frontal lobe. The left cerebral hemisphere was congested, the right pale. There was also a small effusion of blood in the floor of the fourth ventricle on the left side.

The left lung contained a small calcareous tubercle. The aorta was atheromatous; calcareous nodules were noted on attached border of semi-lunar valves; slight incompetency in consequence; liver large, fatty, friable; spleen normal; small cysts in right kidney.

The large quantity of serum underneath the membranes had probably been accumulating for some time before the accident. At the time of the accident rupture of capillaries had taken place; there had been a gradual oozing of blood, which, mixing with the serous fluid already in the Sylvian fissure and adjoining sulci, retained its fluid condition and ultimately produced the symptoms of compression which ushered in death. No symptoms directly traceable to the small clot in floor of fourth ventricle were observed.

The degree to which recovery of consciousness was manifested for three days is noteworthy. U.

Miniature Hammers and the Suture of the Bile-ducts

Dr. W. S. Halstead (*Bul. Johns Hopkins Hosp.*, Vol. IX, No. 6, p. 67, 1898) says that the operation of choledochotomy should never be postponed solely for the purpose of allowing the ducts to be come thickened, for the normal duct "can be sutured accurately, almost infallibly, and without danger of leakage or constriction." To facilitate the suture of the bile-ducts Halstead employs miniature hammers, the heads of which vary in diameter from 3 to 17 mm., and they have the handle inserted near one of the heads in order to make easy its introduction and removal. The mode of procedure in suturing the ducts is as follows: Two sutures are introduced to serve as retractors, and the incision into the duct is made between them. When all is ready for uniting the duct, a hammer of the proper size is inserted into the opening. Then with the very finest of silk and needles, mattress sutures are introduced directly across the hammer-head, uniting the two sides of the incision. These sutures must of necessity go through the duct-wall, but as the contents of the duct

are almost always sterile this makes no difference. The hammer is then withdrawn and the sutures tied. The advantages of being better able to control the position of the duct, of more ease in passing the sutures, and of cleanliness, are all manifest to the operator when he uses these hammers. T.

Myxo-sarcoma of the Optic Nerve

Scalinci (*Clinica Oculistica di Napoli*, Vol. V, No. 2) studied a case of myxo-sarcoma of the optic nerve, which was removed by Prof. De Vincentis in the Ophthalmic Clinic of Naples, without sacrificing the eyeball.

The retinal circulation remained unimpaired after the operation, as was proved by the ophthalmoscopic examinations made in the course of four years. The case occurred in a boy 13 years of age in good health, with no family history worthy of mention. There was no history of traumatism. No spontaneous pulsation could be discovered, neither did pulsation occur on pressing the eyeball backward. The vision in the right eye was 5-60 with + 3.50 D. S. T. normal. The visual field was abolished only in part of the inferior half. There was exophthalmus of 13 mm.; good binocular convergence for distance, and divergence occurred when fixing objects less than 25 ctm. away. The cornea and iris were normal in all respects. The papilla was pale, and there was moderate retinal stasis. The patient suffered from periodical pain and photopsia. The tumor, from the onset of the first symptoms had lasted for four years, but had grown larger during the last six months.

The operation was performed under equal parts of chloroform and alcohol. After widening the palpebral slit through an incision at the external canthus 2 ctm. long, an internal tenotomy together with advancement was performed. The tumor was carefully isolated and freed by making an incision down to the optic foramen, and a second one at 5 mm. behind the eyeball, more than 1 ctm. of optic nerve being free from the growth between the bulb and the tumor.

Two days after the operation the retina appeared somewhat cloudy, but the vessels were normal. There was corneal anesthesia; the pupil was rigidly contracted. Fifteen days later the corneal anesthesia had disappeared. T normal. The pupil was now greatly dilated, but it responded promptly to the action of eserine. Small, irregular pigmentations were observed on the nasal side of the retina, the retinal vessels, however, were of normal size. The macular region presented a red spot, similar

in appearance to the cherry-red spot observed in embolism of the central artery. The papilla was very white. One year after the operation there was no change except that there was a convergent strabismus of 22°.

The tumor was 43 mm. long, and 24 mm. in diameter. It was covered by a capsule with some varicose veins, and showed a fluctuating-like consistence in some places, and hardness in others. The histological elements of the tumor contained considerable mucous substance. The vessels were more numerous at the center than at the periphery. The new formation probably started from the central interfascicular connective tissue of the posterior half of the nerve, as no trace of nervous elements was seen at the center of the tumor, but there was abundant myxomatous tissue and marked vacuolization. Some peripheral fibers of the optic nerve were still unaltered, and hence the vision of the affected eye was not completely abolished.

To explain the permanent retinal circulation which was present after the operation the author says that probably some of the posterior short ciliary arteries were not severed on the temporal side. G.

Influence of Temperature on Infectious Inflammatory Processes

R. Penzo, in the *Arch. Ital. de Biol.*, Vol. XXVIII, p. 1, records the results of a series of experiments on the action of heat and cold on inflammatory diseases. He comes to the following conclusions:

Cold retards the development of infectious inflammation, but at the same time it hinders the process of repair, so that the final results may be worse than with heat, which, while it aids in the growth of the organism, stimulates the tissues directly to reparative reaction, and this aids in the healing.

Both types of action are, the author holds, independent of nervous influence, and also not related to any changes in the blood-circulation. J.

A New Method for Making the Hand Sterile

That there are numerous practical difficulties in the way of obtaining absolutely sterile hands for operations is evidenced by the many new methods constantly being brought forward. The method of using rubber gloves is certainly the greatest step that has been made toward the solution of the problem. Recently C. Menge, in the *Münch. med. Woch.*, No. 4, 1898, suggests a new idea which may do away with some of

the disadvantages of the gloves, such as the obtunding of the sensibility of the skin, and yet retain the valuable features. The hands are first mechanically cleansed in the usual manner, are dipped into an alcoholic sublimate solution sufficient to kill all organisms, and are then thoroughly washed in 70 per cent. of alcohol, washing away all of the sublimate. They are then thoroughly dried upon a sterile towel and completely covered with a mixture of paraffin in xylol. This is said to give them a glove-like covering and yet preserves the tactile acuteness necessary for good surgery. J.

Pyemia in a Boy Thirteen Years Old

This case was observed by Dr. H. B. Sheffield (*Med. Rec.*, Vol. LIII, No. 11, 1898). The boy was strong and healthy. He had a small pustule at the ankle-joint which was treated aseptically and healed rapidly. Three days later he was taken with a chill, followed by fever, which was continuous—not intermittent in character, as taught in most text-books—varying from 105° to 107° F. He presented in order of succession symptoms of pericarditis, pleurisy, nephritis, pneumonia, and hemiplegia, and died on the ninth day of his illness. On the third day small vesicles resembling those of varicella appeared along the leg and soles of the feet. He took plenty of nourishment and never vomited. The blood was examined three times and showed nothing extraordinary. On one occasion two diplococci were found lying in or upon a red blood-corpuscle.

At the autopsy, which was undertaken six hours after death, the body was found well nourished. There were signs of decomposition on the face and chest. Rigor mortis was absent. The precordium was very prominent. A small incision made in this location gave exit to about one and one-half pints of purulent, fibrino-sanguinolent fluid. The heart was enlarged and darker than normal. The pulmonary valve was perforated, and upon the edges were seen yellowish-white vegetations. Vegetations were also present below the aortic valve and upon the endocardium. There was a purulent exudation upon the surface of the pericardium which was firmly adherent to some portions. The pericardium was adherent to the pleura. The liver was congested and greatly enlarged. Very small pustules covered its surface, and purulent foci were found along the portal branches. The spleen was much enlarged, blackish-red, mushy, and almost liquid. The kidney was enlarged and more flabby in consistence than normal; the markings

were obscured. A large number of small abscesses, the size varying from one to two pinheads, were found scattered chiefly in the cortex. They were yellowish-white in the center, surrounded by a distinct bright-red area. The capsule was partly adherent, and when it was separated from the underlying tissues, minute drops of pus were seen to exude at the points where the abscesses were located. There was a very extensive exudation over the pleura, which adhered to the surface of the lungs. On section numerous wedge-shaped deep-red foci of consolidation were found scattered throughout the lung-substance, principally near the pleural surface. The bases of these foci were directed toward the pleural surface. The brain could not be obtained; but judging from the partial hemiplegia, the presence of diseased foci could justly be surmised.

Cultures and microscopic slides were taken from the vegetations upon the heart-valves and from the kidney-abscesses. In both cases the *Staphylococcus pyogenes aureus* and *Streptococcus pyogenes* were found. The latter bacterium was predominant in the cultures obtained from the heart-vegetations. The writer asks why so many larger dirty wounds in patients with broken-down constitutions escape general infection, while this trifling injury proved to be the source of death to the robust boy, moreover, as the wound was entirely healed at the beginning of the disease.

Another peculiar feature of this case was the absence of any physical signs indicating a derangement of the cardiac valves, notwithstanding the marked lesions found there at the necropsy.

The observation that this case was a result of streptococcus and staphylococcus infection fortifies the recently advanced opinion that the antitoxins of these micro-organisms ought to be immediately resorted to in pyemia with obscure etiology. S.

The Pathology of Shock

Explanations of the phenomena attending shock have always been heretofore of an entirely clinical character. Variations in the blood-supply, changes in the distribution of the blood-mass and vaso-motor paralysis have been the most widely current views. Recent work along the line of the finer changes in the nerve-cells has demonstrated a series of changes in such cells comparable to changes found after severe intoxications, thus, Lutzenberger, in the *Ann. di Neurol.*, Vol. XV, f. 5, studies the effects produced in guinea-pigs after severe blows on the head and over the spinal cord.

He found a number of changes in the nervous system. These first manifested themselves by an increase in the ganglion-cells and a change in their chromatic substances. This consisted mainly in a polar distribution of these substances. Certain changes were also found in the white matter of the cord, induced according to the author's experimental evidence, by a rapid dislocation of the cerebro-spinal fluid, this producing a condition comparable to heteropie. In the cord in those locations near the seat of trauma, sclerotic patches develop, which the author claims may be due to the changes in the fibers or may be the result of vascular lesions. In the medulla cell-changes were found similar to those described as occurring in the general paralysis of the insane. J.

The Internal Saphena Vein and Varices

Delbert (*Sem. méd.*) maintains that in varices in the lower limbs which rupture or are accompanied by ulceration, the valves in the internal saphena vein are always incompetent. This is true too when there is no dilatation of the saphena. This incompetency acts (1) by allowing the venous pressure to equal that in the arterioles, through which capillary circulation is arrested and nutrition suffers; (2) by the formation of a circulus venosus, in which the blood loses more and more its nutritive qualities. This venous circle has been demonstrated by Trendelenberg. Delbert classifies varices as high-pressure when caused by incompetent saphena valves, and low-pressure when the saphena is intact, the former generally beginning in the thigh, the latter in the leg. The presence or absence of dilatation depends on the condition of the walls of the veins rather than on the venous pressure. L.

Non-traumatic Hemorrhage

According to an editorial in the *South. Cal. Pract.*, Vol. XIII, No. 3, 1898, bleeding from a cavity is usually alarming to the patient in proportion to the inaccessibility of its source. The amount of loss does not so generally contribute a factor of apprehension.

A nasal hemorrhage of eight ounces will scarcely detain one from business for an hour. From two to four ounces may be passed from the bowels daily for years without exciting especial alarm. An ounce from the stomach demands immediate attention; while half an ounce, or even a teaspoonful from the lungs seems of serious import.

Probably no other disease-manifestation, so varied in its origin, and so threatening in its results is so arbitrarily treated as is non-

traumatic internal hemorrhage; and, quite naturally, the consequent dissatisfaction contributes more largely to skepticism in medical measures than any other one fact. Its treatment is on the border-line between the field of the physician and that of the surgeon. With perhaps the single exception of uterine hemorrhage, the arrest of bleeding is, the writer believes, to be effected most generally, if at all, by the induction of vasomotor paresis. The employment of vasomotor excitants, for the purpose of cutting off the blood-supply, might possibly be rational could this action be limited to the territory involved.

Uterine hemorrhage, as a typical illustration, has given rise to the indiscriminate employment of ergot. This drug, directly a representative vasomotor excitant, is indirectly as vigorous an excitant of striped muscular fiber. It is more frequently given for the arrest of hemorrhage of the cavities, from whatsoever cause save trauma, than any and every other remedy. Yet it is of recent record, that a persistent case of cervical bleeding that had alike resisted ergot and surgical means as well, yielded promptly to the administration of potassium iodide, further investigation having proved it to be specific. In another patient, approaching the climacteric, various surgical measures, including two curettings, with ergot pushed to the limit, failed to give relief, while gelsemium—a vasomotor paralyzant—with one of the coal-tar products arrested the hemorrhage promptly. Attention has lately been called to the fact that in some cases of uterine hemorrhage in middle life, the cause is quite evidently arterio-sclerosis, a condition entirely beyond the influence of the excitomotor nerves, and manifestly to be made worse by the furrows of the curette.

While vigorously pressing ergot in the treatment of uterine fibroid the writer has seen it induce a most persistent diarrhea, doubtless by its influence on the peristaltic muscles; yet how often is it given for the control of intestinal hemorrhage. A protective clot stands poor chance of adhesion under its action. More perilous than here is the employment of this dangerous drug in cerebral or in pulmonary bleeding.

While the vessels of the brain have no vasomotor nerves, yet by induced constriction elsewhere, the blood-pressure within the cranium may be disastrously increased.

The same is practically true in regard to pulmonary hemorrhage. For while its effect on the vasomotor nerves may be measurably neutralized by the cardiac depression consentaneously induced, it nevertheless effects sufficient vascular contrac-

tion both locally and generally to interfere with nature's repair by clot.

Since, the author continues, hemorrhage signifies emergency, demanding all possible promptness of treatment, a few whiffs of amyl nitrite by inhalation should at once be given, its effects being stated to the patient, a hypodermic injection of morphia alone, or preferably with atropia, should follow with deliberate speed. Nitro-glycerin by the mouth in selected dose should be administered three times daily under careful surveillance, and antipyrin midway between. These, the author believes, are the digits to the physician's right hand in his endeavor to put under arrest the life-current as it escapes from an invisible, inaccessible crevasse.

It is all-important that the attendant be self-poised, and be able, within the limits of a reasonable probability, to inspire hope or to reinforce that which may already have come to the patient's support.

Death in hemorrhage is sufficiently infrequent to justify, in most cases, an assurance of arrest. At least two cases, the writer remarks, came under his observation where fatal termination was clearly attributable to psychic shock. S.

Treatment of Flexion-deformities of the Knee-joint

A. R. Shands, of Washington (*Virg. Med. Semi-Monthly*, Vol. II, No. 15, p. 437), for the sake of convenience of description, divides the flexion-deformity almost always present in the tumor albus into three classes:

1. Flexion due to contracture of the hamstring tendons.

2. Flexion due to contraction of the hamstring tendons with adhesions of the articular surfaces.

3. Flexion due to contraction of the tendons and firm fibrous adhesions with bony ankylosis. In the early stage of tumor albus, the flexion-deformity is almost always accompanied with much swelling due to infiltration of the periarticular structure. The latter is treated successfully by compression and fixation, strips of rubber adhesive plaster, half an inch wide, beginning about five inches below the patella, being applied diagonally around the limb in a criss-cross arrangement, extending it about five inches above the patella; over this is applied a gauze bandage, the dressing being completed by a plaster-of-Paris casing. No attempt is made to correct any deformity at this first sitting, which should remain on for a week or ten days; if the flexion is due to tendinous contractures, upon the removal of the dressings, the deformity may be

easily corrected by gentle manual pressure. If all the deformity cannot be reduced without force, the dressing should be re-applied with the limb in its improved position, for another week or ten days. When the flexion-deformity is due to the presence of fibrous adhesions, with actual shortening, the author has obtained excellent results from the use of the Billroth splint, which consists of two fan-shaped tin strips joined by light steel bars, which are joined by a slot and screw. This splint is applied first by fitting the tin strips to the limb, then shaping the steel bars over the prominence of the knee, having the joints opposite the knee-joint. The bony prominences should be protected by Canton flannel or piano felting. The whole should be enclosed with plaster-of-Paris bandages. Before the plaster is thoroughly hardened a transverse incision should be made over the popliteal space, the incision to be continued across the anterior aspect of the knee, above and below the patella, the plaster being removed between the anterior incisions. The following day the leg can be extended to the pain-limit, and by inserting a wedge-shaped piece of work in the posterior incision, the improved position can be retained. The stretching process should be repeated every few days to the pain-limit. If after correcting the flexion there is any knock-knee present, the incisions should be made laterally, the splints being placed on the anterior and posterior aspects of the knee. If these measures be faithfully carried out there will be but few cases left for operative procedure. In the third class of cases, the limb being ankylosed in a distorted position by firm fibrous and bony ankylosis, only operative measures offer any hope of correcting the deformity; resection of the joint is here indicated. Too rapid straightening of the joint should at all times be guarded against, therein lying the danger of injury to the popliteal vessels and nerves. Not infrequently the hamstring-tendons should be divided subcutaneously in fibrous ankylosis or adhesions. An indication also for resection is where the flexion-deformity is complicated with subluxation of the tibia, in old cases. L.

The Dangers of Rectal Operations

Joseph M. Mathews (*Phila. Med. Jour.*, April 16, p. 698) mentions three sources of danger in the operation for internal hemorrhoids. These are hemorrhage, sepsis, and contraction of the anal orifice. To obviate the last the author recommends the introduction of the finger, well anointed, into the anus. Especially should this be done after the ligatures have separated. When con-

traction does occur it should be broken down with a speculum or dilator.

For operations for fistula in ano the danger is injury to adjacent structures or organs, but the main one is division of the sphincter muscle, which refuses to be repaired. So far as the author's reputation is concerned, he would much rather do a half-way operation for fistula in ano and fail to cure his patient than so to divide the sphincter muscle that it could not be repaired. In operations for rectal polypi the author advises against the use of instruments, as they are easily torn off. Should hemorrhage occur, the author uses a plug of iodoform-gauze around a hard rubber tube, inserted as high as it will go after dilatation of the rectum with a dilator or speculum. If a violent hemorrhage is anticipated, he soaks the plug in a solution of iron persulphate, diluted half and half with water to avoid the danger of sloughing of the mucous membrane.

The internal hemorrhoids known as capillary piles are dangerous, because they bleed vigorously. The author emphasizes the fact that violent hemorrhages from the rectum, without previous history of disease, will generally be found to have their origin from a point about an inch within the rectum. In these cases, after first giving an aperient and washing out the bowel thoroughly, he opens the rectum with a three-valve speculum or dilator. He then takes a piece of iodoform-gauze and dips it in a 5-per-cent. Monsel solution. It is made cone- or bag-shaped, and deposited just inside of the rectum. A hypodermic of morphine is then given. The plug is retained as long as possible—for two or three hours.

Examination of the Shoulder for Injuries

According to Brinton (*Drug. Coll. and Clin. Rec.*, Vol. XVIII, No. 12), the following method of procedure should be employed: Stand behind the patient and examine the two shoulders consecutively—with each hand. Starting at the interclavicular notch, pass the fingers out along the clavicle to the acromial process, and then draw the hands backward along the line of the scapula. Then have the patient put his hands high against his back, and follow down the inner edge of the scapula and around its angle, which will be prominent. Next grasp the shoulder, placing the thumb on the acromial process and the finger on the coracoid. The head of the humerus should be between them. Place the finger in the axilla with the thumb on the acromion and have the arm moved in different directions. L.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

The Occurrence of a Vitelline Placenta in the Human Subject

At a meeting of the Edinburgh Obstetrical Society, held Jan. 12, 1898, Dr. J. W. Ballantyne (*Edinburgh Med. Jour.*, Feb., 1898), read a communication on the above subject, describing in detail a sym-podial monster which he had dissected. It showed the absence of all structures which are normally derived from the allantois. He found that the chorion was vascularized by the omphalo-mesenteric vessels, and chiefly from this fact concluded that the maternal portion of the placenta was vitelline in origin in this particular case. Dr. Ballantyne endeavored to support his theory that it was possible for the human placenta to be derived entirely from the umbilical vesicle, and to be vascularized by the omphalo-mesenteric vessels alone. Furthermore, he advanced the view that this absence of the allantoic structures was the cause of the variety of monsters known as sym-podia, and he also believed that in other varieties of monsters the placenta was frequently devoid of structures derived from the allantois. L.

Chronic Inversion of the Uterus, Following Abortion at Four Months

A. W. W. Lea (*Med. Chron.*, Manchester, England, Vol. VIII, No. 3, pp. 177), in reporting a case of the above, states that it is an event of very infrequent occurrence. In fact, but once has inversion of the uterus been met with in 190,000 labors at the Rotunda Hospital. Moreover, 250,000 births were recorded in Vienna without a case. In the vast majority of cases recorded, 87.5 per cent. arise after parturition, most of the remaining cases, nearly 12 per cent., being secondary to the growth of a fibroid tumor, or a sarcoma of the body of the uterus. The mechanism of the production of inversion has been much discussed, and it is now generally admitted that partial or complete uterine inertia is the essential condition. In cases arising from gestation the inversion usually commences at the placental site, and may be spontaneous, the result of a weakened condition of the uterine muscle in this area, or artificial, produced by pressure from above or traction on the cord before separation of the placenta. When once a small area of the uterine wall has become inverted this portion acts as a foreign body, causing efforts at expulsion, and in this way com-

plete inversion may be brought about. The progress of the inversion may even cease at the internal os. The author's case was that of a patient married eight and one-half years; three living children had been born to her, but during the fifteen months preceding her entrance into the hospital she had miscarried four times, in each case between the third and fourth month. Her labors had all been instrumental. There was no history of syphilis. On the fifth day following her last miscarriage she flowed very freely, with sudden pain in the abdomen, attended with collapse. She took to her bed, where she remained six weeks. Two days following after getting up she felt that something came down and endeavored to keep it back with a cloth. There was no pain at this time, though she suffered much discomfort from the presence of a "lump" in the vagina. Examination, per vaginam, detected a rounded elastic tumor filling up the greater part of the vagina, the surface being smooth and soft. The border of the cervix could be plainly felt all around the tumor. Bimanual examination revealed absence of the uterus from its normal position, which was confirmed by recto-abdominal palpation. The mucous membrane of the uterus showed no tendency to become dry and skin-like, as in some recorded instances. Several days later, the unusual privilege was afforded of seeing the uterus menstruate, which lasted four days. Under ether, reduction was accomplished only by making free incisions into the cervix and longitudinal incisions over the uterine mucous membrane at the region of the internal os, in addition to continued pressure kept up on the neck of the swelling and over its surface, the cervix being firmly seized by volcella. The patient subsequently became pregnant and was delivered at term without trouble. L.

Non-ligation of the Umbilical Cord

Keller, in the *Brit. Med. Jour.*, in advocating non-ligation of the cord, states that he has practiced it in more than 2,000 cases, and after careful examination and observation of these cases, summarizes his views as follows:

1. Ligation is unnecessary because (a) it is not required at birth of any other animal; (b) the imagined necessity to prevent hemorrhage does not exist; (c) to tie for cleanliness is superfluous; (d) it is unreasonable to consider that such an imperfection as needs ligation exists.

2. Ligation is in many cases injurious because, (a) it may justly be considered the cause of secondary hemorrhage; (b) by interfering with desiccation, and thus pre-

venting suppuration, it gives rise to ulceration with not infrequent consequences of erysipelas, fungoid excrescences, etc.; (c) it causes inflammation of the funicular vessels by keeping them distended with unnaturally retained blood, hindering their normal obliteration, and laying a foundation for phlebitis, jaundice, etc. By preventing a normal escape of blood and thus causing hyperemia and congestion of the portal circulation, it may lay the foundation of numerous infantile affections apparently originating in congestion of these vessels.

3. Numerous fatal cases attributed to ligation have been recorded by the highest authorities. It can be seen in the new-born that the ligature maintains the right ventricle in a state of distension, otherwise relieved by bleeding from the hypogastric arteries, and this prevents renewal of the action if the heart has stopped, or hastens its stoppage if it is failing. L.

Congenital Ichthyosis

An interesting case of congenital ichthyosis is related by Dr. J. M. Winfield, *Jour. of Cut. and Gen.-Urin. Dis.* (Nov. 1897). No history of ichthyosis could be traced in any of the parents or relatives of the little patient. The mother has been pregnant seven times. The fifth child was ichthyotic, the sixth normal, and the seventh one, here described, was born with the following manifestations. The infant weighed at delivery about four pounds. The bony and muscular structure fully formed; finger- and toe-nails absent; there was a slight ectropion of the right eye, although neither eye could be tightly shut; the lobe of the left ear was considerably smaller than the right; the scalp was covered with normal hair; the body was enveloped in what appeared to be a thick coating of vernix caseosa, which on removal, left the skin red and shiny. If no lubricating protective was used the whole cutaneous surface soon became scaly and fissured.

The child was seen by the writer four days after delivery. The whole body was found covered with thick, reddish-brown epidermic plates which were larger and more marked over the extensor surfaces; some of them were from a sixteenth to a tenth of an inch in thickness, and a half to two inches in diameter; between the plates were fissures of varying depths; movement of the limbs produced cracks about the flexures of the joints, which extended deeply into the underlying tissues. Nursing was difficult on account of the fissures about the angles of the mouth.

The infant lived about two and a half weeks, dying from inanition and loss of

temperature. The autopsy was made about eight hours after death. The internal organs—heart, lungs, liver, and spleen—were found normal. The thyroid gland was absent and no sign of its ever having existed could be discerned. A number of slides prepared from several portions of the skin were examined by Dr. Van Cott, who found the following abnormalities:

The horny layer of the skin was considerably thickened; the rete and subcutaneous areolar tissue presented, in some of the sections, evidences of necrosis, with small round-cell infiltration, and in certain areas the lymph-spaces were occluded with occurrences resembling in every respect micrococci; the latter were more common in the neighborhood of the blood-vessels. In those portions of the microscopic field where the lymph-spaces alone contained these supposed micrococci, the histological findings were those of an inflammatory lesion, with very evident migration of white corpuscles, and, presumably, phagocytosis. Not all of the sections examined contained these appearances, indicating that the infection was local and not general in character. What relation the micro-organisms had to the ichthyosis was difficult to determine. As every precaution had been taken to prevent bacterial infection during life and after death of the patient, Dr. Van Cott is inclined to believe that the micro-organisms found were the result of intra-uterine infection. Dr. Winfield lays, however, more stress upon the absence of the thyroid as an etiological factor of the case in question, reasoning from the fact that various dermatoses occur when this body is atrophied or excised, and that the administration of thyroid extract exerts a beneficial influence on skin-affections where hyper-keratinization and thickening are prominent features. S.

Causation and Prevention of Diseases of Women

At the forty-fourth annual meeting of the State Medical Society of North Carolina, Dr. J. S. Brown said:

Just as in the days of our grandmothers and their predecessors, those who are unfit for motherhood because of youth or age or hereditary disease, still marry and are given in marriage. To many who are physically well qualified maternity has become a burden instead of a joy, and hundreds of invalids must refer the beginning of their invalidism to criminal abortion done for the sake of avoiding pain and care, and for enjoying the so-called sweets of society. These and many like causes demand proper

preventive treatment. But they are not the cause that most urgently calls for removal. Statistics are not sufficiently abundant, complete, and unprejudiced, to make them of much value. Still I venture the statement that specific vaginitis and its extensions cause more trouble than any other pelvic inflammations. And yet, while the prostitute claims these inflammations as her rightful inheritance, she can by no means claim a monopoly on them. Thousands of thoroughly virtuous women are daily called upon to help reap the wild oats of their husbands, and thousands of these husbands are called virtuous men.

Unmarried men need to know that sexual indulgence is not at all necessary for their health and vigor and the maintenance of their virility. They need to know, and many of them do realize sadly, that it is not an essential factor in happiness, but always shows unhappiness as a part of its products. They need to know that occasional emissions are not inconsistent with good health. They need to know that gonorrhea and its consequences are not cured half so easily as they are contracted, and that often when these diseases are not apparent, they are still latent, and may remain so for months and years. They need to know that hosts of women are victimized and made chronic sufferers because of these latent cases in their reformed husbands. If men, women, and boys know more about these matters, and the suffering that follows and spreads from improper sexual indulgence, a healthful wave of reform would sweep over our land and purify our murky atmosphere. S.

Pregnancy and Ovarian Tumors

Dr. Swan. (*Bull. of Johns Hopkins Hosp.*, March, 1898) concludes as follows:

1. Solid neoplasms of the ovary complicating pregnancy are exceedingly rare.

2. The diagnosis may be difficult. In certain cases it may be aided by recto-abdominal palpation under narcosis, using Kelly's method to gently produce artificial descensus of the uterus. The physical examination with the signs of pregnancy, and those which belong more particularly to solid ovarian growths, generally enable us to make a probable diagnosis and one sufficient to warrant an exploratory section.

3. The prognosis in case of solid growths of the ovary complicating pregnancy is much worse, both for the mother and child, than in those of cystic neoplasms of these organs. Abdominal section and extirpation of solid tumors during the early months of pregnancy produce equally good results, so far as the fetus is concerned, as in case

of cysts. The result to the mother depends on the malignant or benignant nature of the growth.

4. In extirpation during the second and fourth months of gestation, the maternal mortality is but 5 per cent., due to hemorrhage, shock, sepsis, etc., whereas the fetal mortality due to abortion is only 20 to 22 per cent., as compared with 40 per cent. for the former, and 80 per cent. for the latter, when those cases are left to unaided nature.

5. The compulsory operation (during the latter of gestation, during labor, or the puerperium) will rarely be required. S.

A Case of Abdominal, or Ventral, Gestation

J. W. Hartigan (*N. Y. Med. Jour.*, April 16) reports a case of the above. The subject was a large, well-formed woman with very much adipose development. She was 40 years of age, had been delivered eight years before of a stillborn child.

She went into labor at 6 A. M. on June 1, 1897. The pains were ineffectual, and all the means usually employed for urging the uterus to successful effort proved unsuccessful. The patient failed rapidly and expired as the head was delivered.

The author, who was one of the consultants, completed the delivery and introduced his hand, following the cord to extract the placenta. He felt a tumor between his hand and the abdominal wall which he determined to be the uterus. His hand was in the abdominal cavity, and for the first time, eighteen hours after he had first seen the patient, the cause of the weak pains was learned.

At the necropsy a long incision in the median line of the abdomen disclosed a thin sac apparently strongly attached to the left postero-lateral aspect of the abdominal wall on the left side high up. Douglas' cul-de-sac appeared to be much enlarged, a great space existing between the uterus and the rectum, in which and in the sac the child's head had rested. The vagina and uterus were lacerated vertically enough to permit the passage of the child. The first physician in attendance thought he felt the dilated os when he examined per vaginam. This was evidently the beginning rent in the uterus and vagina.

The successful cases of Jessop, of Leeds, and Martin, of Berlin, lead one to hope that had the child been delivered spontaneously, by the forceps, or by craniotomy and evisceration, the mother would have had a chance to survive, drainage being maintained per vaginam till the placental separation was completed and the subsequent discharges ceased.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Trional in Whooping-cough

Dr. Busdraghi says that trional is much superior to belladonna in the treatment of pertussis. In doses of 1-2 to 8 grn.—according to the age of the child—it produces a quiet and deep sleep, only occasionally interrupted by a fit of coughing (*Vratsch*, Vol. XIX, p. 228). In conjunction with the trional, he paints the pharynx with a 1-per-cent. solution of carbolic acid (containing also a small amount of glycerin and alcohol). R.

Arsenic in the Treatment of Psoriasis

Dr. Herxheimer employed intravenous injections of arsenic in twenty-five cases of psoriasis, to the exclusion of any other treatment (*Sem. méd.*, CLXII, 1897). Of these twenty-five, ten were completely cured, six were much relieved, nine greatly improved. He commences with 1-60 grn., increasing every day by 1-60 until 1-4 grn., the maximum dose, is reached. This dose is repeated daily until the eruption disappears, which generally takes six to seven weeks. In a week or two the patches usually become darker in color, there is an abundant production of scales, the eruption then fades and disappears, but the pigmentation occasionally persists. The injections are generally well borne. Arsenical zona and diarrhea occurred in two cases, venous thrombosis of the leg (cured in two weeks by rest) in a third, and slight thrombosis in a fourth. The method of procedure is simple: The skin is disinfected by soap, turpentine, ether, and sublimate, an Esmarch bandage is applied above the elbow to make the veins prominent, and the needle of a hypodermic syringe is introduced as nearly parallel to the skin as possible. Whatever the dose of the arsenic it is dissolved in 1 c.c. (15 minims) of sterilized water, and the injection-point is closed with a bit of zinc-oxide plaster. R.

The Value of Errhines as Expectorants

Sir Dyce Duckworth (*Practitioner*, LX, p. 270) states that the benefit sometimes derivable from sneezing in cases of suffocative bronchitis is not sufficiently appreciated in medical practice. When the bronchia are encumbered with abundant secretion from their surfaces, and when, owing to associated pulmonary emphysema, or defective muscular expiratory power gen-

erally, cough is little effectual in promoting adequate expectoration, sneezing is often a powerful aid to the latter process. This may be readily induced by ordinary snuff. It should be fresh and pungent as possible. Failing this, recourse may be had to a snuff composed of one part of veratria and twenty parts of starch, lycopodium, or licorice powder. This is usually unailing to provoke effective sneezing and cough with abundant expectoration. The author found marked relief thus afforded, and the powder may be used two or three times daily. Other methods of treatment must be applied, especially the employment internally of ammonium carbonate, senega, and nux vomica, all of which come under the class of what the late Professor Easton, of Glasgow, termed pneumo-musculo-excitants. Terebene is also of good service in such cases. But we have few better agents for rousing the respiratory center in the medulla oblongata, reflexly through the nasal branches of the fifth nerve, than errhines, and their value has, the author thinks, been too much forgotten in recent practice. F.

The Physiological Action and the Chemical Composition of Piperidine, Coniine, and Nicotine

One of the most fascinating and yet at the same time most practical of problems connected with the pharmacology of the organic medicinal remedies is the determination of the relationship of the chemical composition of a compound and its physiological action. In this manner the fundamental problems of pharmacodynamics are to be solved, and only thus.

The investigation of B. Moore and R. Row, in the *Jour. of Physiol.*, Vol. XXII, p. 273, 1898, upon the alkaloids piperidine, coniine, and nicotine, is timely and important. They show that these three alkaloids are very similar in their physiological actions, although the intensity of their action varies, and they further show that this similarity is due probably to the fact that in all three there is a reduced pyridine ring in their chemical make-up, and further, that probably the quantitative variations are due to the actions of the different side radicals. Their summary of results is as follows:

1. The subcutaneous injection of each drug (in frogs) in sufficient doses causes complete motor paralysis.
2. This motor paralysis is mainly due to paralysis of the intramuscular part of motor nerves. This is shown by the fact that muscle remains irritable directly, but not

through its nerve, when the poison has been allowed to circulate through the muscle, and that an unpoisoned muscle may be caused to contract reflexly through a spinal cord which has been subjected to the poison. We have not been able to demonstrate that there is no spinal action, but this, if present, is but slight.

3. The excised frog's heart is somewhat slowed, and the duration of the systole prolonged by each of the three drugs.

4. The heart in situ (in mammals) is at first slowed but afterwards unaffected.

5. The arterial blood-pressure is enormously raised, and the rise is due to constriction of arterioles and not to increased heart's action. This constriction of arterioles is independent of connection with the central nervous system, and is probably due to vaso-motor excitation in peripheral ganglia.

6. At a certain stage this vasomotor mechanism probably becomes paralyzed, for further administration of any of the three drugs no longer affects the arterial blood-pressure. J.

Hemostatic Action of Calcium Salts

M. Silvestri, acting on Freund's theory that coagulation of the blood is directly proportionate to the excess of calcium phosphates, has employed these salts in serious hemorrhages (*Bul. méd.*, Feb. 6, 1898, p. 126). He gave 1 gme. (15 i-2 grn.) every two hours in wafers until eight or ten grammes of the hypophosphite of calcium was administered, and very rapidly checked metrorrhagias, intestinal hemorrhages (typhoid), gastrorrhagia, and epistaxis. He would rely on this for checking most hemorrhages. H.

Ichthyol in Measles and in Smallpox

Induced by Dr. Kolbassenko's favorable reports of the employment of ichthyol in smallpox, Dr. Strisover decided to try the treatment in his practice. The results, which he relates in the *Vratsch* (Vol. XIX, No. 8, p. 235), were highly satisfactory. One of the most remarkable features is that the itching, which has so far resisted all possible treatment, entirely disappears after the first or second application of the ichthyol. In two very severe cases, the temperature became normal on the second day of the treatment, the itching disappeared completely, appetite and sleep returned, and on the eighth day the patients were convalescent.

Struck with the remarkable results of ichthyol in variola, the author decided to employ it in measles. It is true that measles is not such a severe disease as

small-pox, but when we take into consideration the numerous complications which the disease frequently drags in its trail (pneumonia, capillary bronchitis, otitis, different ophthalmias, hyperpyrexia, meningitis), a good remedy capable of aborting or abating the disease is a great desideratum. Such a remedy is unquestionably ichthyol. He used it in a late epidemic, and the patients' ages ranged from 6 months to 18 years. In every single case the results were highly satisfactory. When employed at the commencement, the disease was aborted, i. e., the temperature became normal, the eruption did not make its appearance, and the child became well; when employed during the full development of the disease, the course of the latter was mitigated to a marked degree.

In one case complicated with croup, and with a temperature of 104° F., the croup disappeared and the temperature became normal after two applications. The preparation which the author has employed is a salve consisting of ichthyol one ounce and lard three ounces. The entire body was smeared twice a day. The author concludes by saying that in ichthyol we have a true specific in the treatment of small-pox and measles. R.

Effects of Methylene-blue on the Kidneys

In a paper recently read before the Minnesota Valley Medical Association, Dr. H. A. Tomlinson (*Northwest. Lancet*, XVIII, p. 61) stated that Drs. Archard and Castaing have applied the methylene-blue tests to fifty cases with regard to the effect of the remedy upon the kidneys, both as a means of testing the permeability of the renal structure and as a method of treating nephritis. In twenty-two cases in which the elimination of the blue was normal, five autopsies showed the integrity of the kidney. Out of twenty-eight cases in which there was a tardy elimination, lesions of the kidney were found at thirteen autopsies. In this series three cases of urinary infection with suppurative pyelo-nephritis were found, one case of interstitial nephritis with considerable atrophy of the kidneys, cystic kidneys in a cardiac case without albuminuria, and a kidney presenting evidence of obstruction in a woman who died of uremia. It was also noted in the case of circumscribed lesions of the kidney that the permeability remains normal if the remainder of the parenchyma is healthy. Variations of permeability and a return to the normal after recovery from acute disease, as in pneumonia, were noted; again, after finding a normal permeability in a tuberculous patient, there was a sudden delay and albuminuria and anasarca would

come on. The test is useful not only in medicine, but also in surgery, as it indicates whether the kidneys perform their functions in a normal manner. Dr. Schwartz reports a case of hydronephrosis in which catheterism permitted the urine from each kidney to be examined separately. The blue did not pass from the hydronephrotic side, and it flowed with some delay from the supposedly healthy side, from which side, too, the urine showed traces of albumen.

Dr. Tomlinson employed the methylene-blue in six cases, and states that he found methylene-blue stained the secreting portion of kidney, but that the fibrous portion remained unaffected. He had no opportunity to verify the conclusion with regard to the selective affinity of methylene-blue for the epithelial structure of the kidney, by post-mortem examination, but the fact that the drug is recommended for use in the treatment of cancer, cystitis, gonorrhea, etc., would indicate its special affinity for functional tissue. The cases recorded, with one or possibly two exceptions, have not been materially benefited, while in the two cases in which marked improvement has taken place, the nephritis was either parenchymatous or mixed. Besides, other cases, not included in this report, indicate that the greatest improvement is to be expected in parenchymatous nephritis. In all cases, however, in which the methylene-blue has been administered, there has been marked improvement in the general condition of the patient, with increase in the amount of urine, and in the amount of urea while the general symptoms of renal inadequacy are very much ameliorated or disappear altogether. Our experience would indicate that the usefulness of this drug will be greatest as a means of testing the permeability of the kidney and in the treatment of the early stages of chronic Bright's disease, while it ought to be invaluable in those cases of renal inadequacy occurring as concomitants of acute infectious and contagious disease, where the probable selective effect of the drug upon the functional epithelium of the tubules and glomeruli, stimulating the excretory function, will prevent the accumulation of toxic material in the blood. F.

Local Applications of Guaiacol in Serous Pleurisy

Dr. Prosorowski reports (*Deut. med. Zeit.*, XIX, p. 265) having used guaiacol in eleven cases of serous pleuritis, in which he was enabled to cause the disappearance of the exudations by painting the skin with the remedy. The patient bore the applications well, and no unpleasant objective by-effects were noted. The cutaneous irritation

was so insignificant that five or six consecutive applications could be made if desired. As a rule, from five to seven applications sufficed to bring about the disappearance of the exudation; nor did the number of the former bear any relation to amount or extent of the latter. In a few cases a fall of 0.2° to 2° C. (0.36° to 3.6° F.) in temperature was observed after the application of the guaiacol, but a rise to the original or even a higher temperature soon followed. Diuresis was also increased during the application, but irregularly, the maximum quantity being 1450 cc. (50 fl. oz.), the minimum 200 cc. (7 fl. oz.). F.

The Action of Atropine and Pilocarpine on the Intestines

In *Le Policlinico* for Nov., 1897, Dr. G. Nairica contributes a note on the action of atropine on the intestines. The author introduced rubber bulbs into the intestines, connecting them with an air-compression registering apparatus, and then introduced small amounts of the alkaloid into the circulation. His results would show that by an action upon the intestinal ganglia and the terminal nerves the movements of the intestines are lessened by atropine, and that it is contra-indicated in atony of the intestines. Pilocarpine, according to his observations, has just the opposite effect; it excites both ganglia and terminal end-organs, and produces marked peristalsis. He considers that atropine is indicated in those cases of constipation only where there are excessive irritation and muscular spasm, such as are seen in the chronic obstipation of lead-poisoning. J.

Two Points in Administering Anesthetics

Dr. Hewitt, in *The Hospital* (Vol. XXIII, March 19, 1898), gives two warnings, one about ether and the other about chloroform, which may well be borne in mind. First about ether, it is pointed out that, both in going under and in coming out, there is a danger of self-asphyxiation, partly from excessive formation of mucus and partly from the fact that the acts of swallowing, which are apt to be set up at this period, are performed very tardily. During normal deglutition the glottis closes momentarily, but during the passage into profound anesthesia the act of deglutition may be spread out, so to speak, over a considerable time, during which no air enters or leaves the chest. In the vast majority of cases this impaired breathing, which comes on just before stertor, passes off spontaneously, or may be made to do so by rubbing the lips briskly with a towel and brushing the lower jaw

forward: but it may be necessary to separate the teeth and pass the finger to the back of the pharynx, when breathing will recommence. Much the same condition will arise during returning consciousness, and it is an excellent plan in all cases in which such a course is possible to turn the patient well upon the side immediately the anesthetic is discontinued. Patients should be very carefully watched while they are emerging from deep anesthesia, and tracheotomy instruments should be at hand.

The warning about chloroform is in regard to children. Small children are said to take chloroform particularly well, and this is no doubt true; but when once they have been brought under its influence they are very easily overdosed. It is often difficult to obtain anesthesia, because the vapor readily causes the glottis to close so that some time elapses before sufficient chloroform enters the lungs; but when once that stage has passed the anesthetic will be absorbed freely, so that very small quantities are needed. S.

Gutaud's Amenorrhea Pills

The following formula is given in the *Jour. de Méd. de Paris* (Dec. 19):

Strychnine Sulphate.....	½ grn.
Iron Peptonate.....	} aa 20 grn.
Manganese Lactate.....	
Scammony.....	

Divide into forty pills. Two to four pills every night on going to bed.

R.

Toxic Effects of Camphor

A 2-year-old child was given by mistake a tablespoonful of camphorated oil (*Sem. méd.*, No. 43, 1897). In half an hour the child got convulsions, then it fell into coma and began to vomit. The pulse was hardly perceptible, the pupils were widely dilated. A hot compress was put over the region of the heart and electricity applied. In about half an hour the child regained consciousness. R.

The Passing of Chelidonium in Cancer

It appears that chelidonium is about to meet the same fate as has befallen the numerous other remedies for cancer that have from time to time appeared on the medical horizon. At a meeting of the Pirogoff Surgical Society (*Vratch*, No. 32, 1897), the majority of speakers were emphatically against its employment. Dr. Shulgin treated five cases of cancer by injecting the extract of *Chelidonium majus* into the growth and by administering it internally (50 gme.—12 1-2 dr.—a day for fifty days). The reaction was only local; the tumor be-

came more succulent, easily breaking down and discharging a gray fluid and detritus. In a sixth case, a hard drinker, there was a general reaction. Dr. Religiotti treated a case of carcinoma mammae with large injections (4 dr. of a 50-per-cent. solution of the extract) into the neighborhood of the growth—not into the growth itself—administering at the same time from two and one half to three ounces of the extract daily. In six weeks the tumor became changed in size, consistence, and shape, and was easily removed by operation. A microscopic examination showed the breaking down of the carcinomatous cells and a line of demarkation between the dead and the healthy tissue. He thinks that chelidonium does have a good effect in many cases of cancer. In Minin's hands, who employed it in two cases of cancer of esophagus, one of the liver, one of the tongue, it proved absolutely worthless. In Dr. Trojanoff's experience, the patients became rather worse, on account of the reaction. Dr. Wreden thinks that the general reaction which is caused by the chelidonium has a positively detrimental effect on the patient. Dr. Zenenko employed the drug in eleven cases of cancer of the alimentary canal and noticed no benefit whatever. On the contrary, the patients complained of increased pains and greater difficulty in digesting the food. In some cases of cancer of the breast and lip the subcutaneous injection caused a severe local and general reaction, with chills and prostration, lasting for twenty-four hours. He considers chelidonium a powerful local irritant, a caustic, causing necrosis of the tumor, but nothing more, while it is inferior to caustic in causing such a severe general reaction. Dr. Ratimoff and Dr. Vertogradoff concurred in this opinion. R.

Naphtalin-poisoning

Dr. Otte, of Amoy, China (*Med. Rec.*, April 30, 1898), wishing to prescribe naphthalin for a weak anemic woman, suffering from chronic enteritis, thought he would first try the effect of the drug upon himself, and took 8 grn. in a wafer. Very soon after he was seized with severe colicky pains in the abdomen, followed almost immediately by diarrhea, tenesmus, and strangury. The motions, which were very numerous and small, were at first fecal, but finally contained a great deal of mucus. Four hours after taking the drug vomiting set in, and continued for about fourteen hours. He could retain absolutely nothing, not even a mouthful of water. Towards the end the vomited matter was slightly streaked with

blood. About fifteen hours after taking the drug the pain became most agonizing. "It seemed as if a red-hot iron was plunged into the kidneys with every heart-beat." This severe pain lasted for about twenty minutes. During this paroxysm the pulse was very slow, and almost imperceptible at the wrist. The urine which was passed soon after was of a reddish brown, and contained about 25 per cent. (by volume) of albumen. It also contained a few blood-clots, lots of granular casts, urates, and mucus. Diagnosis was made of probable poisoning by naphthalin, causing inflammation of the entire digestive tracts and acute nephritis. The doctor continued very ill for five days. The temperature was all the time somewhat subnormal; the pulse was at first 45 per minute, but gradually, towards convalescence, rose to 68 per minute. Relief from the agonizing pains was obtained by hypodermics of morphine and by leeches over the kidneys.

A portion of the drug was sent to a prominent chemist in England for analysis, who reported the sample to be above the average degree of purity, being quite free from quinoline bases, and containing only the merest trace of phenols. R.

Protonuclein in Puerperal Septicemia

In the *N. Y. Med. Jour.* (Jan. 15, p. 88, 1898) is reported a case of puerperal septicemia, which resisted antiseptic treatment, but which promptly yielded to protonuclein. The latter was administered by the mouth in the form of tablets, by the vagina in the form of suppositories, and was dusted over the external genitals in the powder form. R.

Tannalbin in the Treatment of Intestinal Affections in Nurslings

Dr. W. Koelzer reports (*Jahrb. Kinderheilk. u. phys. Erzieh.*, Vol. XLVI, pp. 280-307) having used tannalbin in a number of cases of acute dyspepsia, chronic dyspepsia, enterocatarrh, and enteritis occurring in nurslings. His conclusions regarding the remedy are that it is effective in acute dyspepsia and in true enterocatarrh (after effective regulation of the diet), but is uncertain in chronic dyspepsia and true enteritis. No direct influence is exerted on the disease in general, whether by checking its occurrence by modifying it, but an indirect effect is obtained by an improvement of the affection locally, and thereby affecting the general course of the disease. The doses employed were usually 0.5 gme. (8 grn.), given four times daily. There were cases, however, in which it was found desirable to begin with doses of 2 gme (30 grn.),

given within two hours, followed by 0.5 gme. (8 grn.) doses as usual. A long-continued exhibition (over a week) is not recommended. The author also states that very frequently excellent results were obtained by combining the remedy with small doses of calomel in the treatment of acute dyspepsia. F.

Case of Belladonna-poisoning

A drug-clerk had taken by mistake a drachm of fluid extract of belladonna-root immediately after a very hearty meal (*N. Y. Med. Jour.*, April 30, 1898, p. 617). Soon after discovering the mistake—twenty minutes—large doses of emetics and cathartics were given him. He vomited copiously, and later had a large movement. His symptoms were: Flushed face, dilated pupils, dryness of the throat, incoherent talking, drowsiness, etc. Next morning he was all right. R.

Lobster-poisoning Simulating Poisoning with Atropine

Dr. Fischer reports such a case (*Nouv. Remèdes*, April 8, 1898). A man and two women, having partaken of lobsters, were seized with severe vomiting of a bilious nature, and soon presented the following symptoms, so characteristic of atropine-poisoning: Dryness of the throat, with difficulty of deglutition; dilatation of the pupils; imperfect accommodation; dry, hot skin; dulness of intellect, and general feebleness. There was also very obstinate constipation, the author having succeeded in inducing an evacuation only after large doses of castor-oil, senna, magnesium sulphate, and several soap-enemata. The general toxic symptoms improved under the hypodermic administration of pilocarpine (1-7 grn.), while for the eye-symptoms it was found necessary to employ eserine (1 to 2 drops of a 5-per-cent. solution twice daily). R.

Hemostatic Action of Calcium Hypophosphite

Experience has shown Dr. T. Silvestri (*Sem. méd.*, Vol. XVIII, p. 6) that calcium hypophosphite, in doses of 8 gme. (2 dr.) daily, given in six doses every two hours in cachets, is able to check hemorrhage due to any cause, such as gastrorrhagia and enterorrhagia following gastric round ulcer, the hematuria due to typhoid fever, epistaxis and other sanguinary losses of scorbutics, the hemoptysis of phthisical cases, post-partum hemorrhages, and also sanguinary losses connected with fungous endometritis. In cases where vomiting interfered with the exhibition of the remedy per os, the same favorable action was ob-

tained by injecting a solution of from 8 to 12 gme. (2 to 3 dr.) of the calcium hypophosphite in 200 of 250 gme. (say 8 fl. oz.) of water.

The hemostatic power of the hypophosphite is due, according to the author to the property possessed by the remedy of increasing the coagulability of the blood—a property possessed by the lime compounds in general. F.

The Active Constituents of Cod-liver Oil in Chronic Adenitis with Otorrhea

There has been considerable discussion of late years concerning the efficiency of preparations concerning the active constituents of cod-liver oil in elixirs and wines. Dr. Wm. C. Boteler, of Washington, D. C., relates a case (*St. Louis Medical Era*, April, 1898) of great interest in this connection. The patient, Mr. C., is stenographer to one of President McKinley's secretaries. He came to the doctor for relief from "an annoying discharge from his left ear."

His previous history was as follows: For several years he had marked enlargement of the lymphatic glands of the neck, involving the mastoid, parotid, submaxillary, and superficial cervical groups of each side; he had submitted to excision of the tumors as they occurred, and at the same time stated there was no marked enlargement. There were no constitutional symptoms; there had been no suppuration, there was no fever, there were no hypertrophied tonsils, nor adenoids in the nasopharynx; the teeth were in good condition, there was no involvement of the axillary or inguinal lymphatics; there had been no caseation, and fibrous tissue seemingly predominated.

The history of the case had shown marked exacerbations; the tumors had reached usually the size of a butternut when they were excised. The patient's general nutrition was fair.

About five months before, he had noticed a wasting of serous liquid from the ear, it followed an operation for the removal of an enlarged gland.

The patient was placed at once upon cordial of cod-liver oil (Hagee) internally, a tablespoonful three times a day. Antiseptic solutions of bichloride of mercury, 1 to 2000, were instilled into the ear warm after syringing daily for ten days. At the end of this time the patient announced his ear well. Examinations showed a small perforation of the ear-drum which soon closed after the use of a solution of argenti nit. grs. x to one ounce.

The patient was instructed to continue the use of the cordial above, which was done with some irregularity to Feb. 1. He has

now no loss of hearing, no further discharge from the ear; he has gained, about ten pounds in flesh; his cervical glands are nearly normal; he feels very considerably improved.

An interesting feature in this case is to decide whether the suppuration from the middle ear was "a coincidence," or whether it was due to a breaking down or caseation of a minute lymphatic gland therein, and if it was the latter, what group or gland was so involved. The alterative effect of the cod-liver oil preparation was very marked in this case and deserves special notice.

Sodium Phosphate Internally in Urticaria

Dr. B. Wolff, of Atlanta (*Sem. méd.*, Vol. XVIII, p. 6), states that sodium phosphate, administered in doses of 4 or 5 gme. every three hours, in concentrated solution, relieves the most acute symptoms of urticaria within a few hours, and effects a cure within twenty-four hours. As a topical application the author uses the following lotion:

Prepared Calamine.....	3 gme. (45 grn.)
Zinc Oxide.....	3 gme. (45 grn.)
Carbolic Acid.....	1 gme. (15 grn.)
Lime-water.....	30 gme. (1 fl. oz.)
Rose water.....	63 gme. (2 fl. oz.)

The doses of the sodium phosphate for children must be regulated according to the age of the latter. In chronic urticaria, sodium phosphate in the above-named doses affords a rapid relief also, but there are frequently relapses. Hence the use of the remedy must be persisted in until complete disappearance of the relapses. The sodium phosphate is particularly useful when the urticaria is of gastro-intestinal origin. F.

A Mixture for Infantile Convulsions

Dr. Solomon recommends the following (*Centr. f. d. gesam. Therapie*, Vol. XVI, No. 4):

Maschi.....	8 grn.
Acaciæ.....	½ dr.
Aquæ Foeniculi.....	} of each 1 oz.
Syr. Aurantii.....	

S.—Teaspoonful every hour or two.

R.

Salicylic-acid Ointment in Rheumatism

Dr. S. Sterling highly praises the employment of salicylic acid in ointment form in rheumatic affections (*Münch. med. Woch.*, Vol. XLV, p. 303). There are only too many cases in which the salicylates cannot be borne by the stomach, and it is in those cases that the salicylic-acid ointment finds its principal indication. That the acid is absorbed by the skin has been shown many times experimentally, and its presence in

the urine can be demonstrated by the ferric-chloride reaction, with which it strikes a violet blue color. (To show very small quantities, acidulate with sulphuric acid and shake with an equal volume of ether, pour off the ether and add to it the ferric chloride.) Another proof of its absorption is the tinnitus aurium and the profuse perspiration which it frequently causes.

The ointment which the author employs is as follows:

Salicylic Acid.....	} of each ½ oz.
Oil of Turpentine.....	
Lanolin.....	
Lard.....	2 oz.

This is applied to the affected joint and thickly covered with non-absorbent cotton (wadding), which is covered with gutta-percha tissue and kept in place by a flannel bandage. After the superficial epidermis is destroyed, the turpentine is left out from the above formula. Four cases are reported, showing the satisfactory action of the ointment. R.

Calcium Lactophosphate in Acne and Furunculosis

Dr. H. S. Purdon, of Belfast (*Nouv. Rem.*, Vol. XIV, p. 153), reports having obtained good results from the employment of calcium lactophosphate in various forms of acne, and especially in the hypertrophic form, as well as in furunculosis, the remedy in the latter case being given in conjunction with iron. The best form of administration was the following:

Syr. Calc. Lactophosph.	90 gme. (2¼ fl. oz.)
Cod-liver Oil.....	120 gme. (4 fl. oz.)
Essential Oil Almonds.....	10 drops
Powdered Acacia.....	sufficient
Water.....	30 gme. (1 fl. oz.)

F.

Splenic Hypertrophy of Paludal Origin Treated with Iodo-iodide

Four cases presenting enormous splenic tumefactions due to chronic impaludism, have been treated by Dr. F. Parona (*Sem. méd.*, Vol. XVIII, p. 30) with hypodermic injections of iodo-iodides, whereby he obtained a rapid diminution in the volume of the hypertrophied organ. The solution used by him was made as follows:

Iodine.....	0.25 gme. (4 grn.)
Potassium Iodide.....	0.02-0.5 gme. (¼-8 grn.)
Guaiacol.....	0.02-0.5 gme. (¼-8 grn.)
Glycerin (Sterilized).....	25 gme. (6 fl. dr.)

One gme. (15 min.) of the solution was injected in the subcutaneous tissue of the side or back, after complete sterilization of the part, and then covered with a bandage moistened with boric-acid solution. The injections are ordinarily well tolerated, and

the pain caused by them is diminished by the guaiacol. The medication is temporarily suspended as soon as an examination of the urine and saliva denote that the organism is, to a certain degree, saturated with iodine. During the treatment the patient must remain abed. According to the author, this treatment brings about in a few days an amelioration of the general condition; then the spleen begins to diminish in size, rapidly at first, but more slowly later on. The results obtained lead the author to believe the iodo-iodide treatment above described is at once a most efficacious as well as harmless treatment of paludal splenic hypertrophy. F.

Grindelia Robusta in Cardiac and Pulmonary Affections

According to Huchard (*Jour. de Méd. de Paris*, 1898, No. 16), in emphysema *Grindelia robusta* facilitates the respiration and expectoration. In simple cardiac hypertrophy and in dilatation it has all the advantages of digitalis without any of its drawbacks. Furthermore, he affirms that it relieves pulmonary congestion and the palpitation associated with cardiac hypertrophy, emphysema, asthma, and incipient tuberculosis. The following formula is given:

Tincture Grindelia.....	6 parts
Tincture Convallaria.....	2 parts
Tincture Squill.....	1 part

Fifteen drops three times a day.

F.

Santonin in Aphthous Gastro-enteritis

Under the name of tropical aphthæ, or aphthous gastro-enteritis, through China and the Indies, is very widely distributed an affection which is characterized by intense vomiting, diarrhea, and the existence of aphthous patches on the tongue. No effective treatment for the malady, which frequently terminates fatally, has so far been known. Dr. Ch. Begg (*Sem. méd.*, Vol. XVIII, p. 18) has found, however, that the disease is very favorably influenced by santonin. This must be yellow, it having been found that white santonin has no therapeutic effect whatever on the disease. The method of treatment employed by the author is to administer first a purgative, or evacuate the bowels by means of an injection, then to give 0.3 gme. (5 grn.) of yellow santonin dissolved in olive-oil, every morning and evening for about a week. A milk diet must be rigorously observed, which must be changed to a more substantial one only gradually. The yellow santonin may be made by exposing the white substance to the action of sunlight for a few hours. F.

REVIEWS

The Diseases of the Stomach. By William W. Van Valzah, A. M., M. D., Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital, and J. Douglas Nisbet, A. B., M. D., Adjunct Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut Street, 1898. Price, \$3.50 net.

Notwithstanding the fact that the stomach has lately been shown to play a much less important rôle in bodily changes than has hitherto been the current belief, books treating of its diseases seem to multiply. This is the third large volume that has appeared on this subject in the United States in less than a year. It is evident that the profession still deems this organ a very important one, even if it can be completely removed without appearing to seriously inconvenience its owner. As long as it remains in the body and acts as a center of disturbance and discomfort, it is sure to call for the careful attention of medical men, and books dealing with its deviations toward the abnormal will be sure to be in demand. The one before us is a well-written, well-arranged treatise, that compares favorably with the best of its predecessors and that will doubtless give satisfaction to those who possess it. After a short introduction in which the author's methods are explained and the arrangement of the book set forth, there follow five sections treating respectively of Diagnosis, General Medication, Dynamic Affections, Anatomical Diseases and the Vicious Circles of the Stomach. Under Diagnosis there are five chapters devoted to Clinical History, Physical Signs, Functional Signs, Bacteriological Signs, and Anatomical Signs. The chapters on Ulcer of the Stomach, Neoplasms of the Stomach, and Displacements of the Stomach, are probably the best written in the volume, some of the shorter ones showing some redundancy of words that tends to detract from their clearness. The typography, binding, and mechanical work of the volume are excellent.

The Year-book of Treatment for 1898; A Critical Review for Practitioners of Medicine and Surgery. By Twenty-six Contributors. Philadelphia and New York: Lea Brothers & Co.

The fourteenth annual issue of this useful and handy little volume, like all its predecessors, is well abreast of the progress of therapeutics up to the time of its publication. It contains a large amount of new information put together in a very handy shape for the consultant. The principal diseases are handled separately and the new lines of treatment pursued during the year are given in the chapters where each is described. The following summary of the contents will enable the reader to understand the scope and utility of the work: (1) Diseases of the Heart and Circulation. (2) Diseases of the Lungs and Organs of Respiration. (3) The Treatment of Nervous and Mental Diseases. (4) Diseases of the Stomach, Intestines, and Liver. (5) Diseases of the Kidneys, Diabetes, etc. (6) Gout, Rheumatism, and Rheumatoid Arthritis. (7) Infectious Fevers. (8) Medical Diseases of Children. (9) Anesthetics. (10) General Surgery. (11) Orthopedic Surgery. (12)

Surgical Diseases of Children. (13) Diseases of the Genito-Urinary System. (14) Diseases of the Rectum. (15) Venereal Diseases. (16) Diseases of Women. (17) Midwifery. (18) Diseases of the Skin. (19) Diseases of the Eye. (20) Diseases of the Ear. (21) Diseases of the Nose and Throat. (22) Tropical Diseases. (23) Public Health and Hygiene. (24) Medical Jurisprudence. (25) Summary of the Therapeutics of the year 1896-1897, chiefly in reference to New Remedies. We cannot quite understand why a volume devoted to treatment should have a chapter on Medical Jurisprudence.

Elements of Latin. For Students of Medicine and Pharmacy. By Geo. D. Crothers, A. M., M. D., teacher of Latin and Greek in the St. Joseph (Mo.) High School; formerly Professor of Latin and Greek in the University of Omaha; and Hiram H. Bice, A. M., Instructor in Latin and Greek in the Boys' High School of New York City. 5¼ x 7½ inches. Pages xii—242. Flexible cloth, \$1.25 net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia; 117 West Forty-second Street, New York City; 9 Lakeside Building, 218-220 South Clark Street, Chicago, Ill.

For students of medicine and pharmacy—and for them only—who wish to become familiar with the rudiments of the Latin language, with the declensions and conjugations, with the correct use of the different cases, etc., the book is well adapted, indeed. The vocabulary consists mainly of words, with which such students are, as a rule, familiar. They are drawn from the departments of pharmacy, anatomy, surgery, obstetrics, and general medicine. And we believe that the student will learn the declensions with greater ease on paradigms, like "tinctura," "syrupus," etc., than on the time-honored "agricola," "aquila," "pater," etc. And sentences like "Quinina amara est" or "Levatores costarum respirationem adjuvant" will appeal to him more strongly than "Nauta bonus filiam pulchram reginæ amat."

About one-third of the book is occupied with notes, in which is given in detail the explanation of the various pharmaceutical terms (infusum, decoctum, liquor, mistura, etc.), the position and description of the different anatomical structures, etc. This seems to us to be entirely out of place. Such information belongs to text-books on pharmacy and anatomy. The chapter on prescription-writing might also have been left out. The makeup of the book is very attractive.

Report on Bubonic Plague; Being a Report Based on Observations on 939 Cases of Bubonic Plague, Treated at the Municipal Hospital for Infectious Diseases at Arthur Road, Bombay, from Sept. 24, 1896, to Feb. 28, 1897. By Khan Bahadur N. H. Choksy, Extra Assistant Health Officer, Bombay Municipality. (Reprinted by Authority.) Bombay: Printed at the Times of India Steam Press. 1897.

Medical men in this country sometimes think the superstitious notions of the ignorant are intolerable when in any way they interfere with the treatment of the sick. To read this report of what has to be endured from ignorant Hindoos in the Bombay hospitals during the plague shows that our grievance in this direction is scarcely worthy of attention in comparison. When a doctor gave a hypodermic injection he was charged with doing so to kill the patients in order to stop the plague. The report says "It was freely stated that the patients were purposely killed and their hearts

taken out in order to send them to Her Majesty the Queen-Empress, to appease her wrath, on account of the disfigurement of her statue." In October, 1896, from 800 to 1,000 persons made a raid on the hospital to wreak their vengeance on the staff. But for the armed police guard it would have fared badly with them. They dared not go out for meals without being guarded by policemen. Some patients refused to take either medicine or food, fearing the doctors more than the disease. The indications and lines of treatment followed were: "(1) To keep up a regular action of the bowels; (2) to control the febrile state; (3) to control the delirium; (4) to sustain and support the heart's action; (5) to treat the buboes and to act directly, if possible, on the system through treatment directly to the lymphatic system; (6) symptomatic treatment directed towards such complications as arose in the course of the affection; (7) serum-therapy." Under the use of Prof. Haffkine's serum the mortality-rate was 40 per cent. Yersin's serum was tried on three very early cases, one of which recovered after a long sickness and the other two died within twenty-four hours after the injections. The Russian serum prepared by Yersin's method failed in every case in which it was tried, all dying after its use. Prof. Lustig's serum was tried on six very serious cases, and all made satisfactory recoveries. The closing sections give concise descriptions of the post-mortem appearances of the various parts of the body. Appended to the volume are thirty-six charts, giving the pulse-rates, temperature, and respirations, for morning and evening, of as many cases, one of them running to the seventy-fourth day of a protracted case. Health-officer Choksy certainly deserves the thanks of the whole profession for his painstaking work which he has executed in so creditable a manner and under circumstances that must have been trying to his patience and his temper, to say nothing of the dangers to which he was exposed. The statistical part is very complete, showing as it does the profession, caste, and other necessary particulars regarding the patients.

Orthopedic Surgery.—By James E. Moore, M. D., Prof. of Orthopedic and Clinical Surgery in the College of Medicine of the Univ. of Minnesota, etc. Published by W. B. Saunders, Philadelphia, 1898.

This book is not a lengthy and detailed work on Orthopedics, but merely, as the author states in his preface, "a text-book for students and a ready-reference book for general practitioners." There is a pleasant absence of descriptions of useless or antiquated methods and of any confusing discussion of other people's ideas. The author states plainly only that which, according to his knowledge and experience, will help the reader to make a proper diagnosis and to institute that treatment which has the best chances for success. Like a great many works written by busy and practical American surgeons, the pathology is sacrificed to symptomatology and treatment, and this we believe to be the part of the work most open to criticism.

The book would be more useful for reference if it were more systematically arranged, especially as regards the order of the chapters, but a full index partially makes up for this deficiency.

The book is easy to read and understand, this being due in part to the use of short sentences and in part to the stating of only facts and the avoidance of theorizing.

The illustrations are most profuse, the large majority being reproductions from photographs.

They are well chosen and sometimes extremely elucidating.

The methods of treatment are modern, and operative procedures are given all due recognition, though "true" conservatism is an abiding principle which characterizes this part of the work. The book will not be an encumbrance to the already overloaded market of medical literature, but will find a place of usefulness.

CORRESPONDENCE

Greater New York Special Train to Denver

To the Editor of the A. M.-S. BULLETIN:

At the last meeting of the New York County Medical Association, a committee on transportation was appointed to arrange for a Greater New York special train to the Denver meeting of the American Medical Association.

All physicians and their friends, of New York and vicinity, going to the meeting are specially invited to join the regular Association's special train party. They will find it to their advantage both socially and financially.

Those who have attended the national meetings at a great distance can attest to the advantages of going in good company and in large numbers. They point out as of incalculable importance the preliminary introductions, the personal contact, the social intercourse, the interchange of sentiment, opinion and experience, and finally, the opportune appreciation of the personality of the interested. Thus prepared, *en route*, one enters more fully into a keen appreciation of the routine of work and enjoyment during the period of the meeting. With these advantages before him, who would go alone? The most satisfactory arrangements are being made and special information will be forwarded to all who communicate with the chairman or any member of the committee.

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Credit to Governor Tanner.

To the Editor of the A. M.-S. BULLETIN:

In the last issue of the BULLETIN you mention Illinois as having been captured by the osteopaths. At the last regular session of the Legislature the osteopaths succeeded in getting their bill through both legislative houses, but our much-abused Governor, John R. Tanner, vetoed and killed it, for which he should be duly credited by our profession. Yours truly,

E. J. MELLISH.

Chicago, April 28th.

The Wisconsin State Medical Association held its fifty-second annual meeting at Milwaukee from May 4 to 7. They had a long, interesting programme of papers and discussions. About 150 members were present and Dr. W. Mackie presided.

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EDITOR'S NOTES

The joint meeting of regulars, homeopaths, and eclectics, at Topeka, Kan., was a complete success, and will be repeated. We will refer to some interesting features of this meeting in a future issue.

The rates fixed by the Western Passenger Association for the trip to Denver and return to those attending the meeting of the American Medical Association is the fare one way and two dollars. Tickets will be on sale June 2, 4, and 5, east of the Missouri River, and 5 and 6 west of it. With so low a rate every physician who can spare the time should go. It is a lovely country to visit on an excursion. It will show those in attendance the kind of climate and region that has been found of benefit to tuberculous patients.

The single uncorrected violation of a sound ethical or sociological principle by the officers of a community damages humanity more than could years of onslaught by criminals and anarchists. For any commonwealth or municipality to go into business competition with its citizens is to establish a precedent destined in the long run to undermine personal freedom. It is the principal function of government to see that its citizens are permitted perfect freedom in the pursuit of life, liberty, and happiness.

Such freedom is encroached upon by every effort of the government to enter into direct business competition with them. The New York policeman who a few years ago so far forgot his duty as to make a criminal attack upon a young woman was a just object of unusually severe punishment for that class of crime. If the masses as fully appreciated the danger attached to the efforts of the New York Board of Health in entering into competition with business houses in the manufacture of such commercial articles as antitoxin, they would just as quickly demand the exemplary punishment of the members of the board. They should be the guardians of the purity of everything closely related to health, but they should on no account be permitted to violate the sanctity of commercial usage. To do so is neither more nor less than commercial libertinism, and if persisted in and logically followed up by all municipalities in other lines, will leave no place for free or independent citizens.

The Medical Society of the State of Texas, in its late convention at Houston, had laid before it a proposed bill for the regulation of medical matters in that State. The Legislative Committee in presenting it said: "We beg to elicit the careful consideration and best judgment of the association for this bill, make whatever changes in your united wisdom you may deem necessary for the best interests of the State and the profession, and when you have arranged it for adoption, let it receive the full and free endorsement of a united body." The one great danger in all medical bills is the anxiety on the part of their promoters to get too much. Nature never goes by leaps, and an effort to push matters too far or too fast thwarts the very purpose sought to be promoted. To strike too hard at the vicious habits or the superstitious notions of a community is to have the blow recoil and damage those it was hoped to benefit. Practical wisdom and not ideal perfection should be the guide in framing medical laws. In imposing conditions they should be general and apply without reserve to everybody. No particular class should be aimed at. The law that will not cover all classes as well as legal physicians cannot stand. Special legislation is abhorrent to our constitution. To legislate against osteopaths, hydropaths, Christian-science healers, or any other class, is only to bring damage on the profession of medicine. It is to be hoped that Texas will soon have a good medical law based on the principles of true justice.

PUBLISHERS' DEPARTMENT

THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio, in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set—one hundred and sixty pictures—for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C., M. & St. P. Ry., Chicago, Ill.

"THE PIONEER LIMITED"

This is the name of the only perfect train in the world, now running every night between Chicago, St. Paul and Minneapolis, via the Chicago, Milwaukee & St. Paul Railway, the pioneer road of the West in adopting all improved facilities for the safety and enjoyment of passengers. An illustrated pamphlet, showing views of beautiful scenery along the route of the Pioneer Limited, will be sent free to any person upon receipt of 2-cent postage stamp. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

A SOUVENIR FROM ST. LOUIS

A unique little souvenir in the form of a paper-weight has been sent to us by the Dios Chemical Co., of St. Louis. To the hasty glance it is the conventional convex glass paper-weight, but closer inspection reveals on the bottom a neat mirror. A band of blue felt encircles the bottom of the weight, and serves the threefold purpose of framing the mirror, protecting it from destructive jars, and deadening the sound when the weight is being forcibly placed into active service.

More than this, the paper-weight will serve as a constant reminder of the Dios Chemical Co.'s well-known preparations: Palpebrine, Diobiburnia, Neurosine, and Sennine.

LITHOS TABLETS

The following letter was received by H. K. Mulford Company, from one of their Southern patrons:

Dear Sirs—Some months ago an aged gentleman called for treatment, who had for a long time suffered from cystitis. The history of the case was much that of all these cases, he had been the rounds of our physicians, without finding relief. I put him on your Lithos Tablets—one, four times, daily—and increased to two at a dose, with the most happy results. The relief experienced was prompt, and resulted in complete recovery. An interesting feature of the case, and my reason for writing you was that the patient was so highly gratified that he insisted upon paying twice the amount of my bill. I am, very truly yours,

ANTIKAMNIA IN HEADACHES

J. Stewart Norwell, M. B., C. M., B. Sc., House Surgeon in Royal Infirmary, Edinburgh, Scotland, in an original article written especially for *Medical Reprints*, London, Eng., reports a number of cases of headache successfully treated, and terminates his article in the following language:

"One could multiply similar cases, but these will suffice to illustrate the effects of antikamnia in the treatment of various headaches, and to warrant

the following conclusions I have reached with regard to its use, viz.:

- (a) It is a specific for almost every kind of headache.
- (b) It acts with wonderful rapidity.
- (c) The dosage is small.
- (d) The dangerous after-effects so commonly attendant on the use of many other analgesics are entirely absent.
- (e) It can therefore be safely put into the hands of patients for use without personal supervision.
- (f) It can be very easily taken, being practically tasteless."

THE CHUTMUCK SPECIAL

The Missouri Pacific Railway Company, St. Louis, Iron Mountain & Southern Railway Co., and Leased, Operated, and Independent Lines.

The Office of General Passenger and Ticket Agent makes the following announcement:

If you go to Denver to attend the meeting of the Association, of course you want to take the best train, over the best route. And as to what is the best train and the best route, there is no room for difference of opinion.

The finest special train for Denver on this occasion will be the CHUTMUCK SPECIAL, run over the "old reliable," the Missouri Pacific Railway. The equipment of this train will be unsurpassed. Vestibuled throughout, all dirt and dust is absolutely avoided. Pullman Compartment and Buffet Sleeping Cars afford the best accommodations that can be procured.

SPECIAL CAR CONNECTIONS AND STOP-OVERS.

For the doctors of the East and South, a special inducement to take this train is the through car service that has been arranged for. Pullman Cars from the South and from the East are to be attached to the Chutmuck Special at St. Louis, thus completely avoiding change of cars en route. This is a point worthy of careful consideration by all who esteem comfort in traveling.

An advantageous feature of this train is the liberal provision made for stop-overs. On all tickets going and returning by diverse routes, stop-over is allowed at Omaha on deposit with Joint Agent of Bureau at that point. This enables all who so wish to see the Great Trans-Mississippi and International Exposition. On all tickets going and returning via same route and one-way tickets, a charge of \$1.00 for deposit and extension will be made. The same arrangement as to stop-overs will be made at Kansas City.

RATES OF FARE.

One lowest first-class fare, plus \$2.00 for the round trip to Denver, Colorado Springs or Pueblo. The fare from St. Louis required on this basis will be \$36.50. Similarly reduced rates from eastern points will prevail. Tickets will probably be on sale June 3d, 4th, 5th and 6th, 1898.

THE ROUTE

of the Chutmuck Special lies west from St. Louis through one of the most interesting sections of the United States.

Taken all in all, the Chutmuck Special will be unquestionably the most popular train to the Association meeting in June.

Particulars and further information will be furnished by H. C. TOWNSEND, General Passenger and Ticket Agent, St. Louis, Mo.

The El Paso County Medical Association, of Colorado, has arranged for the entertaining of one thousand of the delegates that attend the meeting of the American Medical Association, at Denver, on June 7 to 11. The association will, on June 11, show them around their beautiful city of Colorado Springs, take them to Broadmoor and other points of interest about the city, give them a reception at the Temple Theatre, take them to Pike's Peak, Cheyenne Canon, the Garden of the Gods, Manitou and Cripple Creek. A committee of thirty-four was appointed on May 3 to perfect the arrangements and to raise \$3,000 to meet the expenses.

NEWS

The American Academy of Medicine will hold its annual banquet at Denver, on June 4.

Dr. Sternberg lately appointed five new immune physicians to accompany the army to Cuba.

A Newcastle, Pa., physician was shot on April 30 by a patient he was treating for delirium tremens.

Dr. Daniel Lewis has become treasurer of the New York Physician's Mutual Aid Association, Dr. Robert Campbell having resigned.

The American Medical Editors' Association will meet in Denver on June 6. The banquet will take place at the Brown Palace Hotel, in the evening.

The first ambulance-ship fitted out for war since the Geneva convention, has now become part of the United States Navy. It bears the appropriate name of Solace.

The Iowa State Medical Society met at Des Moines, May 18 to 20. A large number of interesting papers were read, and those in attendance had a good time.

The Medical and Chirurgical Faculty of Maryland met in Baltimore, April 25-29. Dr. Chas M. Ellis presided. A large number of papers were read and 77 new members were added.

Through the advice of Attorney-General Mylrea, of Milwaukee, the Wisconsin State Medical Board has agreed to accept the certificates of twenty-six graduates of the Milwaukee Medical College.

Philadelphia physicians held an important meeting on May 4, at the College of Physicians and Surgeons, to protest against the abuse in that city of public charity and to see what measures could be adopted to stop it.

Dr. Norman, one of the oldest physicians of Columbus, Ohio, and the first person in that city to submit to anethetization died aged 78, on May 5, at his home in Columbus. He served four years as surgeon in the civil war.

The Iowa and Illinois Central District Medical Association met at the Harper House, in Rock Island, Ill., on April 29. The principal paper on the occasion was one by Dr. A. M. Beale of Moline on "Medical Practice in Mexico."

The regular physicians of Missouri are circulating a petition for signatures of those willing to vote against Governor Stevens because of his attitude toward the profession in the Fulton scandal. It has already reached an enormous size. They expect to see him defeated.

The doctors of Washington, D. C., have sent in an ultimatum to the telephone company demanding lower rates. The strike began with the druggists, and now the doctors have taken a hand in it. They have ordered all their telephones taken out if the rates demanded are not acceded to quickly.

Over 1200 physicians have offered their services to Surgeon-General Sternberg to serve in the Cuban war. No medical appointments are made in the regular army of any person over 29 years of ages. All must be graduates of medicine and must pass an examination as to competence before the army medical examining board.

The Florida Medical Association opened its twenty-fifth anniversary at the Board of Trade rooms, in Jacksonville, on Wednesday, April 27. Dr. R. B. Burroughs' presidential address on yellow fever created great enthusiasm. He called attention to the fact that in at least one epidemic in Jacksonville the negroes were not immune. The oration by Dr. Abernethy was pronounced exceedingly good.

Dr. Cornelius N. Hoagland, founder of the Hoagland Laboratory, of Brooklyn, died at his home in that city on Monday evening, May 2. He was regent of Long Island College Hospital, Fellow of the Microscopical Society, of London, and trustee of a number of educational institutions and banks. His estate is estimated at several millions of dollars, and at his death he held one million dollars' worth of United States bonds.

The Colorado papers have for months been urging the people of the State to write to their friends all over the Union and ask them to persuade every doctor they know to attend the June meeting of the American Medical Association. This, with the many inducements in the shape of free excursions and free entertainments with the exceedingly low rate granted by the railroads, is expected to call together a very large attendance. The fare for the round trip is fixed at a single rate, plus \$2.

The Ohio State Medical Society held its fifty-third annual meeting in Columbus, at the Great Southern theatre, May 4-6. The Ohio State Pediatric Society met at the same place May 3. About 600 members were reported as in attendance at the two conventions. Money was raised for the Rush monument fund. A vote was taken to continue the crusade against the quacks. Many interesting scientific papers were read and many more had to be read by title for lack of time to hear them. A special executive committee was appointed before which all business shall come for approval, so as to avoid taking up the time of the society in useless debate. Dr. N. R. Coleman, of Columbus, was elected president. The next meeting will be held in Springfield.

The general session of the American Medical Association will open at the Broadway theatre, in Denver, on Tuesday morning, June 7. In the afternoon the sections will begin their work, as follows: Medicine, Trinity M. E. Church, main auditorium. Diseases of children, Trinity M. E. Church, basement. Therapeutics, Unity Church, auditorium. Dermatology, Unity Church, basement. Surgery, Central Presbyterian Church. Obstetrics, Congregational Church, auditorium. Neurology, Congregational Church, basement. Ophthalmology, Brown Palace Hotel. Throat and nose, Brown Palace Hotel. Physiology and dietetics, Central Christian Church. State Medicine, Y. M. C. A. Hall. Stomatology, First Baptist Church. The Coliseum has been obtained for the exhibits, for registration, and for the association post-office. On Tuesday evening the various section banquets will be held: Section on medicine, Brown Palace Hotel. Section on surgery and anatomy, Brown Palace Hotel. Obstetrics and diseases of women, Brown Palace Hotel. Ophthalmology, Brown Palace Hotel. Laryngology and otology, Windsor Hotel. Diseases of Children, probably Albany Hotel. Materia medica, pharmacy, and therapeutics, St. James Hotel. Physiology and dietetics, Windsor Hotel. Neurology and medical jurisprudence, Oxford Hotel. Cutaneous medicine and surgery, Windsor Hotel. State medicine, Brown Palace Hotel.

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EDITORIAL

DISEASED POULTRY AS HUMAN FOOD

SOME years ago we remember hearing Professor Joseph Leidy say that he was very fond of chicken-liver. One day at dinner he missed his favorite tidbit from the gravy-pot, and asked his cook a few minutes later why it had not been served. She, telling him that it seemed "queer," he had it looked for and brought to him, when he discovered it to be in an advanced stage of cancerous degeneration. The cancer-stricken fowl, whilst it fed his intellectual faculties, did, as it turned out, his physical nature no harm.

This story has been recalled by a recent article in the *British Medical Journal*, telling how a certain cook found the liver of the Christmas turkey disreputable in appearance, but nevertheless served up the turkey to the family party, after which the uncooked liver was found to be studded all over with tuberculous masses.

It seems probably that tuberculosis is quite common among poultry, but according to the *British Medical Journal* there is not much ground at present for believing that avian tuberculosis can be transferred to man; and certainly a well-cooked fowl, even though he be of tubercular disposition, cannot be looked upon as an aggressor against physical human nature. The experi-

ments of Strauss and Wurtz and of Strauss and Cameleia seem to show that birds are almost immune to tuberculosis of human origin. Rivolta and Maffucci have found that tubercle bacilli of avian origin have only slight pathogenic properties in regard to mammals. Koch himself has insisted upon the cultural differences between the two bacilli. On the other hand, we know that Gilbert, Roger, and Cadiot have been able to produce tuberculosis in rabbits by inoculating them with the avian bacillus. The same authors have also shown that hens may, under certain conditions, be infected with the human tubercle bacillus. These results have been confirmed by Courmont and Dor, Nocard, Delépine, and, we believe, also by Macfadyean. The guinea-pig, which is so easily affected by the tuberculosis of mammals, is very resistant to avian tuberculosis, but is not so immune as some believe. We must therefore admit that avian tuberculosis may occasionally be transmitted to mammals. All our domestic birds (common fowls, turkey, guinea-fowl, peacock, pigeon, pheasant, etc.) are liable to it; indeed, epizootics may occur in poultry yards and entail serious pecuniary losses. Once a place has been infected the disease becomes enzootic, and is very difficult to eradicate unless all the birds in the poultry yard are destroyed and the place thoroughly disinfected.

It appears that the tuberculous fowl is

very prone to suffer from fatty degeneration of the liver, and according to Moulé this fact is sometimes taken advantage of in the preparation of the liver-paste which is so dear to the heart of the gourmand under the name of *pâté de foies gras*; that all *pâté de foies gras* is tuberculous is improbable, but that it is at best merely the *débris* of a diseased organ is indisputable.

Moral. Cook your chickens well, and if you must eat diseased products see that they have been purified by the ordeal of fire.

HOW DO PHYSICIANS CURE DISEASES?

NUMBERLESS as are the exciting causes of bodily ailments, they can all for convenience sake be placed in a very few classes. There are those due to vegetable and animal parasites, like the itch, favus, malaria, and tuberculosis; those due to chemical causes like the malaise of auto-intoxication, the pain of lead-colic, and the delirium of alcoholism; those due to mechanical obstructions or displacements, like intussusception, hernia, and hepatic colic; and finally those due to errors of development such as cleft palate, bifid uterus, and vestigial structures. If there are any diseases of which the exciting causes cannot be placed in one of these classes, then they are diseases the causes of which have, up to the present time, remained undiscovered. It is ignorance only that keeps us from being able to complete the classification. Until we do know the cause we cannot hope to be able to reach a rational means of cure. The first step toward a proper line of treatment is only possible after we have acquired a clear conception of what we have to treat. We cannot know what we have to treat until we know its cause.

Suppose we find our window broken and go in search of the cause of the break. If we discover that it was due to a stone

thrown by a boy, how can that knowledge help us to mend our broken window? Evidently it cannot. We might compel the boy to pay for the damage, but that would not be mending the broken glass. Here, then, we have a case in which a knowledge of the cause does not help us toward any knowledge of how to get rid of the effect. Suppose, however, that instead of a broken window we have broken ice on a skating-pond to deal with. We are anxious to see that pond frozen over some winter's night and awaken in the morning to find the ice riddled with holes. We again go in search of the cause and find the same mischievous boy at work throwing stone after stone through the thin forming crust of ice. To discover the cause in a case of this kind is to discover how to remove that cause and mend the broken ice.

Here we have a case exactly analogous to those with which physicians have to deal. The same class of forces can operate to damage the ice as operates to damage our patients, and the same methods of overcoming the damage in the one case will answer in the other. Observe here that the healing, curing, or mending of the ice is done by the ice-forces themselves. All that we have power to do is to remove the causes that check its growth. Without the removal of these causes it is evident that a cure is absolutely impossible, unless the ice grows fast enough and thick enough to encyst both boy and stones, or to overcome the boy's strength and speed by growing so thick between the times of his throwing that he can no longer break it. The human body, like the ice in the pond, does all its own healing. We can only remove obstructions and overcome the causes that hinder its activities.

Whenever any cause continuously interferes with the development of a clear crystal of ice or a pure healthy body, that cause

must be removed or no cure is possible. Sometimes many causes may be at work simultaneously damaging the ice or damaging the human body, and then all of the causes must be removed before nature can assert herself by a cure. Again, different damaging causes may succeed each other, the first, second, or third having disappeared, and a fourth keeping up the mischief. A succession of stones may have been followed by a fire on the ice, and this again by sulphuric acid poured upon it. All of these may have run their course, and then a mass of salt may have been placed upon it. To cure the damage it will do no good to remove the spent stones, the extinguished fire, or the saturated acid. We must know of the freshly applied salt and remove it. Thus it is in the human body.

The first cause may be gone when we are using our remedies for it. We must know the immediately acting cause or causes committing the ravages and seek to remove them. If we find a person being burnt we can extinguish the flames. If we learn that acid has been thrown upon him we can stay its ravages by removing it or neutralizing it. When there is no longer any fire or acid present we must see that the damaging air does not get to the wound, and when this is looked after we turn our attention to the invading bacteria so as to arrest their destructive work.

Each obstruction to the proper development of the body must be discovered and a way found for its removal, otherwise we shall continually fail to cure our patients. Where we do not know the causes we cannot be expected to know always how to remove them. An accidental discovery may in some cases give us the method, but as a rule we must grope in the dark until the causes have been discovered. In the majority of such cases we leave the matter to nature, and then take

to ourselves the credit of doing the work. We speak of some remedies as almost specifics. The writer believes that where such remedies fail other causes than the one thought to be present account for the failure. If we knew how to overcome the cause or causes that lead to failure we should be successful every time. When we give quinine in malaria, mercury in syphilis, and serums in their respective diseases their failure is due to causes not present in the cases they cure. When we speak of cure in all these cases it must be distinctly understood that we only mean such a cure as we work on the broken ice of the ice-pond when we stop the boy from continuously breaking it.

To cure a patient never means to repair the damage of the injury or disease. That nature alone can do. The doctor can only prevent the continuance of the cause of the damage. All successful medication is preventive medication. Prophylaxis is the very essence of cure. Instead of an ounce of prevention being worth a pound of cure, an ounce of prevention is just an ounce of cure. When we give quinine we kill the plasmodiums and prevent the ague that they would have produced. When we give the antitoxin of diphtheria we neutralize the toxin and prevent the mischief that the latter would otherwise do. When we give a cathartic we force toxic substances out of the bowel that would otherwise be absorbed into the blood to poison the system. We thus prevent the malaise, headaches, and so-called bilious symptoms that would otherwise have occurred. When we cannot get at the root of a disease we are often able to prevent some of its most dangerous symptoms. To lop off one by one the tentacles of a disease, if such a simile is permissible, we can often cripple if not destroy it as an enemy of the patient. Where sleeplessness is leading the patient toward

death we can, by the use of sulphonal or morphine, prevent its continuance and so prevent the series of evil consequences that would otherwise have occurred. To prevent a part is not as good as to prevent the whole, but it is much better than preventing none.

A growth in knowledge is a growth in ability to go deeper and deeper into causes and so to be able to prevent their deleterious activities upon ourselves. The deeper down our prevention is able to go among the bad symptoms of a disease the more likely are we to save our patients. To know how to prevent a tetanic spasm is not as good as to know how to antidote the poison of tetanus, but it is well to have the former knowledge when we have not the latter, or when the latter is unavailable. There is no breach in continuity between sanitation and treatment. The former prevents the approach to the body of injurious forces and the latter prevents their action in the body. The method of sanitation is the method of true treatment. It is simply carrying into the body the methods found efficient out of the body. It is all summed up in the one word "prevent."

To give drugs without a definite conception that there is something dangerous which we wish to prevent, is criminal foolhardiness. Many symptoms in disease are beneficial to the patient. They are nature's effort at shaking off or preventing its continuance. Fever, absence of appetite, thirst, and diarrhea, are probably in the majority of ailments in which they appear, distinctly beneficial. When excessive or too protracted they are likely to be dangerous. All decidedly evil consequences should, if possible, be prevented. The one law running through all cure is the law of prevention. To prevent is to cure, and conversely to cure is to prevent.

AMONG THE EDITORS

THE RÖNTGEN RAYS AND RECRUITS

Recent reports tend to suggest that in the near future a Röntgen ray apparatus may enter into the physical examination of army recruits. In France a conscript, who had satisfied the ordinary medical tests, is said to have produced some radiograms of his leg, which showed a revolver bullet so lodged as to render him unfit for active service. Whether this particular incident be true or not, it is so absolutely within the bounds of probability as to warrant the routine adoption of a Röntgen ray examination of recruits and conscripts. In the hands of a skilled operator the rapidity with which the screen can be used to investigate intrathoracic conditions is remarkable. Nor can there be any question that by this means many lesions, such as aneurism and consolidation of lung, may be forthwith detected in early stages which nothing but a prolonged and careful physical examination could otherwise hope to disclose. What appears to be a good way to screen localization of bullets has lately been described by M. Morize at the Académie des Sciences. His plan is to throw the shadow of the foreign body on the screen, and then to fix opaque adhesive discs upon both sides of the limb or trunk, so as to coincide with the line of shadow of the projectile. That process is exactly repeated at right angles. The point of intersection of the two lines formed by the opposing discs marks the site of the bullet. Clearly, a mastery of the new diagnosis will be a simple working necessity to military surgeons, and possibly even in the unexpected direction of the recruiting station.—*Medical Press*.

REGULARS AND OTHERS

In spite of all attempts at enlightenment, it seems as if the position occupied by the regular physician is to-day as little as ever understood by more than a small proportion of even the more intelligent members of the laity.

One of our most popular weeklies saw fit, a short time ago, to devote its central,

double-page illustration to depicting a fancied verbal encounter between a physician and a mental healer, wherein the latter was made to remark that both were beguiling the public, the only distinction being that their methods differed, and that after all, even if the "old-school" physician did more good, it was certain that the mental healer did less harm. At the news-stands this highly colored work of art came in for a liberal share of observation from the passers-by, although tacked on a board where it was surrounded with graphic portrayals of Spanish atrocities, Uncle Sam rescuing a weeping infant Cuba, and other scenes calculated to attract attention in the present state of the public mind. Most of the bystanders seemed to regard the position assumed by the faith-curst as eminently justifiable, especially as this worthy was depicted as a dapper, wide-awake individual and the representative of the regulars as a bewhiskered monstrosity, regarding the healer scornfully from the vantage-ground of a pile of jugs of physic, the labels on which doubtless awakened many unpleasant memories.

Will the public ever learn the real position of the regular practitioner and the difference between him and all "pathists" and pseudo-scientists? It would seem as if our claim should be easy of comprehension—that we are ready to accept and apply for the good of our patients any and all methods of treatment which prove of value, but that we believe the discovery of such remedies is to be accomplished not by blind adherence to any so-called law, but by patient study of the phenomena of health, the nature of diseases, and the action of each drug.—*Virginia Medical Register*.

MEDICAL CLUBS ABROAD

There is at least one phase of the free-dispensary evil in which this country is not yet so hopelessly involved as others. We refer to the organization of what are known as medical clubs, and which have a way of alleging various specious pleas for their existence, but whose sole purpose, as every doctor knows, is to obtain medical services at a trifling cost for their members. The

universal public sentiment in this day is tending obviously towards a point where medical attendance shall be absolutely free. In a recent communication to the *British Medical Journal*, complaint is made of a certain "Cirencester Working Men's Conservative Benefit Society" that is establishing numerous branches in different towns, and that refuses to pay the doctor but 4s. 4d. per annum per member. Hitherto the annual fee has been 5s. Therefore the doctors in one of these villages have combined, and are fighting valiantly for the extra 8d. per annum per patient.

It is to be hoped, of course, that the doctors may win; not so much because of the extra 8d. per annum, but on account of the tremendous principles involved. And should the doctors not succeed, who knows but that this "Conservative Benefit Society" may knock off another 4d. next season and make it 4 shillings straight!—*Medical Standard*.

FAILURE OF NEW YORK DISPENSARY BILL

The adequate control of dispensary abuse is bound to come, and next year's session of the legislature will find the same earnest workers on hand to further a bill having this object in view. More than this, another bill, of vital interest to every medical practitioner in the State, will be introduced, and, it is hoped, will become a law. This bill, according to information just at hand, will contain three separate provisions: first, making a husband and wife jointly liable for a bill for medical services; second, making such a charge a first lien on a deceased patient's estate; and, third, in the event of judgment being obtained against a debtor whose income is derived from a salary, authorizing the creditor to obtain, and the proper court to grant, an order requiring the debtor's employer to set aside a percentage of his salary each month until the judgment has been satisfied. Such a law as the last-named is already in force in at least two States, and its working has produced excellent results. At the present time there is no law on the statute-books of this State offering protection to the medical profession in this connection, and it is high time that combined and persistent

effort should be made to obtain favorable legislation. Elections will occur in many of the Assembly districts of the State before the next meeting of the Legislature. Many of the present legislators will go before their constituents for re-election, and many new candidates for legislative togas will urge their claims. Much of the obliquity pertaining to the session that is past will be forgotten, and loving-cups for the time being will be relegated to the top shelf of an upstairs closet. Unity of action and purpose on the part of the medical profession is imperative if success is to be achieved in legislative matters concerning the welfare of its members. Every physician should regard it as a personal affair; every prospective legislator should be interviewed and a pledge obtained in support of these bills. Personal support of a candidacy should be forthcoming only in the event of such a pledge being given. And the time to organize is now. It should not be deferred until a few days before election. We have all heard the cry "Manana, Manana!" too frequently repeated during the last few exciting weeks, and its sound is not a pleasant one.—*Med. News.*

THE FREE DEATH-CERTIFICATE

The manifold exploiting of the medical profession presents a subject full of interest upon grounds that are not less philosophical than utilitarian. Its results are everywhere in evidence, for this principle of extracting gratuitous services is a hydra with many heads. It is seen in its extremest state of evolution in our hospitals, where the humanity of one section of the profession is made the backbone of an unhappy competition against another, and not less socially important section, the general practitioner. Against this kind of abuse the profession has long protested, and it almost looks as if at length we may anticipate some practical outcome from the agitation. As to the many forms of exploiting by inadequate payment little need here be said. It may be pointed out, however, in passing, that the solid stand taken by the profession against the sweating of the medical aid societies furnishes a most encouraging object

lesson as to the value of a firm and united attitude upon matters of common policy. There can be little question that the origin of many of our professional grievances may be traced to a want of combination and unity, two qualities that are essential to self-preservation in the fierce class struggle of modern civilized life. Nowhere are the disastrous effects of this want of combination more apparent than in the passage of legislation affecting medical men. All other professions are strongly represented in the Houses of Parliament, and in that way are enabled to protect their consolidated and sharply defined interests. Should a bill be presented in either House trenching on the work of the lawyer, or the soldier, or the churchman, it straightway becomes the object of the closest criticism and contention. On the other hand, should a purely medical matter come before Parliament there is no one to organize and protest and protect, so that the Government as a rule works its own sweet will and trusts to the representations of a few non-representative and irresponsible private advisers.

Perhaps the most flagrant instance of the kind is to be found in the death-certificate, which, according to law, must be furnished gratuitously by the medical man. This view has been confirmed by a recent judicial decision, which declared that a medical man could not insist upon payment for "the document in question." The objection was raised by a practitioner, who refused to grant the certificate until other fees were paid. He has had to pay heavily for his courage in disputing the point, but although he has lost the day upon legal grounds there can be no doubt as to his being morally in the right. What other profession would sign responsible documents without a fee? What other profession, again, would allow a grossly unfair and unbusinesslike condition to be imposed upon them by Act of Parliament? There are many other interesting considerations involved in this matter of gratuitous certificates. Indeed, were a fee to be granted by the Government, and its payment restricted to registered medical practitioners, a great step would be at once made towards the control of irregular practice.—*Medical Press.*

CURRENT TOPICS

BACTERIOLOGICAL STUDIES OF SELF-PURIFICATION OF STREAMS

In the *Arch. f. Hyg.*, XXX, p. 32, 1897, G. Kabrhel gives a number of interesting observations on the self-purification of streams. He shows that the number of organisms varies widely at the same time and place, and that a thorough study of all contributory factors is essential in interpreting the results. His observations were conducted on water from the river Moldau, and the specimens were plated within an hour from the time of gathering. His results are tabulated. Some interesting facts may be gathered from a study of these tables, thus the effect of temperature is much less than would be supposed unless impurities rich in organic matter should suddenly be added to the water. J.

MEASUREMENT OF THE CHEST AT INSPIRATION, AND AT DEEP EXPIRATION, IN EXAMINING FOR LIFE-INSURANCE

Geo. W. Wells (*Med. Exam.*, Jan., 1898) states that in man the greatest respiratory movement is at the lower part of the chest and the upper part of the abdomen. If there is any variation, the cause must be sought for. If the greatest movement be at the upper part of the chest, there must be pain or some mechanical or other trouble in the lower part or in the abdomen. If the type of respiration is markedly abdominal, the examiner should investigate the heart, the lungs, the pleura, or the intercostal nerves; for while there may be no disease of the organs of respiration, there may be neuralgia, especially if the applicant lives in a malarial district. The difficulty in arriving at correct conclusions as regards examination of the heart and lungs and chest generally in women, is one reason which makes them less desirable risks than males, in that the examiner must listen through the clothing, the measurements also being taken at a different point. The greatest motion of the chest in breathing in women is at the upper part of the breast, where the measurements should be taken. In health the chest varies greatly in its movements and measurements, the ordinary expansion being about one and one-half inches the forced expansion averaging a little over three inches. The size of the chest bears a certain relation to the height and weight of an individual, a person five feet and one inch in height, weighing 120 pounds, should have a chest-measurement of thirty-four inches. A variation of 16 per cent. below

the standard expansion is looked upon with suspicion, while the capacity of expanding the lungs so as to inhale a large amount of air is not generally looked upon with disfavor. It should be remembered that right-handed people will often have the right side of the chest larger than the left, and *vice versa*. While there may be variations in the comparison of the two sides not due to disease, there are others which will act as causes for rejection or postponement. There may be any degree of interference between full expansion and complete suppression of one side, due to crippling by neuralgia, rheumatic pains, pneumonia, consumption; or the lung may be bound down by pleurisy in its active stage with its consequent pressure of fluids, or by an old pleurisy with adhesion; again, there may be pressure of a tumor, either in the lung or pleura, or even on the outside of the chest; by an enlarged or dropsical heart, or by paralysis. There may be an interference of both sides by double pleurisy, by double tuberculosis, emphysema, or asthma, the two latter also causing undue expansion. Often a nervous element as regards the patient may interfere for the time with his expanding the chest. In case a chest does not move and cannot make respiratory movements, applicant should be postponed, or if the cause is irremediable, declined. L.

PALPATION IN PHYSICAL EXAMINATION

Dr. Robert Maguire, in a paper on palpation and auscultatory percussion (*Brit. Med. Jour.*, Feb. 19, 1898), states that palpation is for most purposes much more delicate than percussion, and, after a little practice, much more free from fallacies.

To practice the method it is well at first to press lightly and alternately with the first and second fingers of the right hand upon the part desired, using just a little more pressure than one would employ in testing the eyeball for glaucoma. If this be done there will be found in various parts of the chest-wall, ignoring the bony and cartilaginous prominences, many spots in which the resistances vary. In trying the method it is important to throw one's knowledge of anatomy on one side and approach the matter with a quite open mind. After a little practice, too, it is unnecessary to use the alternate pressure of the fingers described, and it suffices to pass the fingers, pressing lightly, over the chest-wall. Try in the former way the first and fourth interspaces of the left side in the parasternal line (one inch and a half outside the edge of the sternum), and the fourth space will be found to be the harder, from the presence of the heart be-

neath it. Again, compare the second and the seventh spaces in the right nipple-line, and the liver-resistance will be felt in the latter space. Press with the ball of the thumb on the upper part of the thorax on the right side, and again on the part below the nipple, and the difference of resistance will be obvious.

Differences of resistance can even be felt through solid bone, like the sternum. Test the resistances of the sternum opposite the first and the fourth intercostal spaces and the resistance of the heart will be felt in the lower spot, though this requires a little care to detect.

Practised as described, palpation can define delicately and more accurately than percussion the areas of the heart, liver, and spleen. G.

A MODIFIED FIXING FLUID FOR GENERAL HISTOLOGICAL AND NEURO-HISTOLOGICAL PURPOSES

A. P. Ohlmacher, in the *Jour. of Exp. Med.*, Vol. II, 1897, No. 6), after experimenting with various modifications of Carnoy's fluid, which is so highly recommended by van Gehuchten, presents the following modification:

Anhydrous Alcohol	.....80 parts
Chloroform	.....15 parts
Glacial Acetic Acid	.....5 parts
Corrosive Sublimate	—to saturation.

The alcohol employed is made by dehydrating 95 per cent. of alcohol with anhydrous copper sulphide. About 20 gme. of powdered corrosive sublimate are required to slightly over-saturate 100 c.c. of the fluid.

Ordinary pieces of tissue are sufficiently fixed in fifteen minutes to half an hour. For the brain, after subdivision eighteen to twenty-four hours is usually sufficient. Penetration is rapid and the cytologic details are said to be excellent. J.

NUTRITION AND DIGESTION AFTER REMOVAL OF THE STOMACH IN MAN

La Sem. méd. (Jan. 22, 1898, No. 4, p. 27) takes from *Beiträge zur klin. Chir.*, XIX, 3, the following observations by Dr. Schlatter on the patient of 66 years, from whom he had removed the stomach for diffuse cancer of that organ on Sept. 6, 1897.

A few days after the operation the only abnormality was a slight elevation of temperature, the nutrition being at first maintained by enemata. Soon tea, milk, bouillon, wine, and eggs were administered in small quantities by mouth. Twenty days after the operations solids (e. g., meat and chicken) were given in finely divided state, in small quantities at a time. This was

well borne, with only occasional vomiting, so that about two months after the operation the patient's weight had increased by four kilograms (two pounds).

The stomach, as a reservoir for foods, mixes them intimately, changes albuminoids into peptones by aid of HCl and pepsin, modifies the casein to facilitate its absorption by the intestine, and by its gastric juice modifies saprogenic and pathogenic fermentation and putrefaction sufficiently to protect the intestine.

Schlatter studied this patient to see what modification of these functions was produced when the organ was removed. Several analyses of feces and urine were made which showed that albuminoids were digested and assimilated almost normally. Besides, the urine contained only small proportion of indoxyl and scatoxyl, showing that intestinal fermentation and putrefaction were not more active than normally. At various times she vomited, though she had no stomach, confirming in man Magendie's experiments on animals. In the vomited matters there was no HCl, but lactic and pancreatic ferments, and trypsin. This confirms the experiments of Kaiser, Pachon and Carvallo, and Filippi on animals, that the stomach, is not an indispensable viscus, and that all its functions may be partially fulfilled by other organs, the pancreas and the intestine.

THE VITALITY OF THE PLAGUE BACILLUS

In a report presented to the Surgeon-General of the Bombay Presidency, E. H. Hankin records certain investigations into the vitality of the plague microbe in the soil, in urine, in cow-dung, in the chief grain-exports from Bombay, and into the action of disinfectants on it. Mr. Hankin found (*Brit. Med. Jour.*, Feb. 12, 1898) the isolation of the plague microbe, when mixed with the microbes commonly present in dirt, to be almost impossible, and he doubts Yersin's statement that the plague microbe can be found by existing methods in the soil of the infected localities. An attempt was made to obtain some idea of the probable behaviour in the outside world by testing the duration of life in various substances that might possibly act as its nidus. This was done by adding the plague microbe to the substances to be tested after they had been sterilized. In acid urine it was found that the microbe could remain alive for twenty-four hours. In acid human feces it appears to die out sooner. Similar results were obtained with acid cow-dung, but in alkaline cow-dung the plague microbe appeared to be able to keep alive for four days. Grain which has fermented usually

acquires an acid reaction, and it was found that the plague microbe died out within twenty-four hours when placed in sterilized liquid obtained from putrid grain. Mr. Hankin was unable to confirm the statement of Wihn and Abel, that the plague bacillus could remain alive in sterilized water for many days or even weeks. Cultures of the plague microbe added to different grains usually exported from Bombay perished within thirteen days. Mr. Hankin confirmed the views of Kitasato and Abel that the plague microbe is not particularly sensitive to carbolic acid. Phenyl, a distillation-product containing various phenols and cresols, appeared to be more active; while izal was still more active, for in a strength of 1 to 500 it appeared to kill the microbe in five minutes. But as phenyl and izal are insoluble in water, and merely form an emulsion, it is questionable whether their activity would be as great under the conditions that exist in Nature. This objection cannot be raised against lysol, which seems to be equally efficacious. Naphthalin had no disinfectant action. Formic acid 1 in 100, acetic acid 1 in 142, lactic acid 1 in 333, nitric acid 1 in 333, hydrochloric acid 1 in 500, sulphuric acid 1 in 1429 destroyed the plague microbe in five minutes, while permanganate of potash in a strength of 1 in 10000 destroyed the microbe. G.

SEMEN IN STAINS

Etienne Martin, of Lyons, at the International Medico-Legal Congress, held last year at Brussels, communicated a new and rapid method of demonstrating the presence of semen in stains, discovered by Professor Florence, of Lyons. The *Edinburgh Med. Jour.* thus describes the process: The material with the suspected stain is soaked in distilled water, and a drop of the fluid pressed on to a glass slide; a drop of a special reagent, "Florence's reagent" (iode trioduré), is then added, and the preparation examined under a microscope. With a low-power objective the rapid formation of numerous yellow-ochre crystals, similar to hemin crystals, but much larger, is seen; these disappear rapidly, and they dissolve at a temperature of 50° C. This reaction may be regarded as affording great probability of the presence of semen. If the stain has given a positive reaction, a small piece of the material is cut from the edge of the stain and placed in distilled water for an hour. One of the fibers is then detached, placed upon a slide, and a drop of croceine added. With an immersion-lens it is seen that the spermatozoa are colored bright red, and the fibers of the material light pink.

The heads of the spermatozoa have an appearance like an acorn, the exterior portions being transparent and the posterior opaque. L.

A NEW PATHOGENIC CHROMOGENIC BACILLUS

Dr. Gorham (*Jour. of the Boston Soc. of Med. Sci.*, March, 1898) describes a new bacillus resembling the *Bacillus pyocyaneus* in all but the following respects:

1. It is provided with several flagella scattered over its whole length, while the *Bacillus pyocyaneus* has but one, or rarely two, at one or both poles.

2. It has never been seen to grow out into chains or filaments of more than two elements, no matter in what culture-medium it is grown.

3. The culture-media never show fluorescence as do these on which the *Bacillus pyocyaneus* is grown. The color is always green, with no trace of yellow, and only one pigment can be isolated.

4. Indol is produced by the *Bacillus pyocyaneus*, while tests of this form were negative.

5. In bouillon-cultures this organism produces a cloudy medium with a thick mycoderma, unlike the corresponding changes of the *pyocyaneus*. S.

THE STRUCTURE OF THE NEUROGLIA

James R. Whitwell (*Brit. Med. Jour.*, March 12, 1898) summarizes his study of the subject as follows:

1. The sustentacular apparatus of the nervous system consists of an interlacing network of fibrils, in the meshes of which lie cells both neuroglial and nervous.

2. These fibrils show no evidence of being direct processes of cells, and do not appear to branch.

3. The sponge-like reticulum thus formed is to be regarded as the peripheral portion of the lymphatic system, consisting of lymphatic spaces and channels.

4. The fibrils form a complete basket-work for each element in the nervous tissue, including the blood-vessels.

5. The fibrils consist of a highly refractile substance (refractive index about 1.5) with a considerable degree of electricity, as is shown by their curvature on release.

6. Chemically the fibrils appear to be composed of a substance which is neither neurokeratin nor elastin. G.

A 5- to 10-per-cent. solution of picric acid, painted along the edges of the lids once every two days, after removing the dried crusts of the lids, has been found very valuable in chronic blepharitis, says the *Medical Press and Circular*. S.

ORIGINAL PAPER

SOME REMARKS ON APOMORPHINE AS AN EXPECTORANT WITH A VIEW TO CORRECTING PREVAILING NOTIONS REGARDING DOSAGE

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THE reason for this short paper lies in the annoyance to which I am not infrequently subjected, of pharmacists calling me up by telephone, either to question the correctness of my prescription or, as occurred in one instance, to refuse altogether to put up the dose I had ordered of apomorphine hydrochlorate.

This reluctance is due to the belief based on statements made in therapeutic publications that this remedy acts as an emetic in doses of one-fifth or even one-tenth of a grain, whereas I frequently prescribe it in doses far in excess of that amount.

Merck's Index for 1896 describes the drug as "minute, grayish-white, shining, acicular crystals; feeble bitter taste; green, on exposure to light; soluble in 6.8 parts of water, and 50 of alcohol, melting at 270° C. Emetic, expectorant, cardiac depressant. Uses: Emesis in poisoning, suffocative catarrh, etc.; dislodge foreign bodies from esophagus. Use fresh solution only or alarming symptoms may occur; contraindicated in weak or fatty heart. Dose: Expectorant 1-64 to 1-20 grn. (0.001 to 0.003 gme.) in syrup; emetic, 1-20 to 1-8 grn. (0.003 to 0.008 gme.). Injected, as an emetic, 1-15 to 1-10 grn. (0.004 to 0.0065 gme.)."

The foregoing statements as to dosage and the effects of the doses given do not accord with my experience. Thrown under the skin one-tenth to one-fifth of a grain will generally produce prompt emesis, and yet I have seen complete failure follow one-fifth grain injected twice into a patient moribund from pneumonia with extensive bronchitis. By the mouth a patient may take even as much as two grains at a single dose without occasioning even nausea. I can recall one instance in which the

patient felt sick after taking so large a dose. This was a male of middle age with chronic bronchitis who took two and a half grains four times a day without ill effect except once, when he took the medicine immediately upon rising in the morning before having eaten. I recall another male patient in whom one grain four times a day did not provoke emesis, but did occasion slight feeling of uneasiness. He was suffering from pleuritic effusion with pyrexia, and had obstinate cough, with scanty, tenacious sputum. Although I have many times prescribed for patients suffering from bronchitis, whose hearts were affected, one-eighth, and even one-half grain at each dose, I have never seen cardiac depression result.

I have discovered, however, that if even a small dose of apomorphine be combined with some other nauseating expectorant, as ipecac or tartar emetic, it intensifies the action of the latter and readily occasions sickness and even vomiting.

That persons could tolerate such large doses of apomorphine when administered by mouth was first impressed upon me by a paper contributed by Sir. Wm. Murell to the *British Medical Journal* in 1891. He reported a number of instances of patients who had taken this remedy in doses of a grain and more, without nausea, and like myself found that when it occasioned sickness it was generally due to its having been taken in the morning before breakfast. One of his tubercular patients was unable for long to tolerate one and one-fifth grain three times a day.

He prescribed the remedy for chronic bronchitis and emphysema, with the result that when maximum doses were taken expectoration was increased, sometimes enormously, and cough was correspondingly lessened.

Although derived from morphine by hydrochloric acid at a temperature of about 150°, apomorphine produces an entirely different physiological effect. Administered by the mouth it acts as an expectorant and does not produce sleep or any pain. Yet I discovered recently that my 9-year-old daughter became sleepy when taking

one-quarter of a grain every three hours. As I have never observed this effect before I inferred that the preparation had not been carefully purified and contained traces of morphine. Great care should be taken therefore to prescribe and dispense only a pure article, as Merck's. Its effects are so satisfactory and it is so easily administered in pill or capsule, when for any reason it is not desirable to prescribe a syrup, that it has become my favorite remedy and main reliance in the treatment of both acute and chronic bronchitis. Combined with codeine or morphine, troublesome cough can be allayed without at the same time arresting bronchial secretion; indeed, the sputum will be increased, while at the same time the cough is moderated in violence and frequency.

Large doses are by no means always necessary, as illustrated by the following case. Several years ago I was asked to see a lady, the mother of a baby 10 days old, who had developed a very frequent dry cough. It was so nearly constant and was so violent that aside from preventing sleep it was likely to do harm to the pelvic organs. As she was nursing her infant the cough could not be allayed by morphine, and the attending physician was at a loss what to prescribe.

An examination of the chest was negative. I ordered a sixtieth of a grain of apomorphine in a drachm of syrup of wild-cherry bark every four hours. Whether the cough was of nervous origin or not I cannot say, but certain it is that inside of twelve hours the cough had become remarkably relieved, and disappeared altogether before the two-ounce mixture had been all taken.

A few weeks ago a medical friend met me and said he wished I would give him something for his cough, as he had to make an address that evening and his voice was so hoarse and his cough so troublesome that he feared he would not be able to speak. I told him to take a quarter of a grain of apomorphine in capsule every three hours. A week or two subsequently, happening to meet him again, I inquired about his cough, whereupon he exclaimed, "Why!

that's an awful medicine to give anybody!" Of course I was surprised and asked what he meant, when he added, "why, a single dose cured me, and a medicine that will cure a patient as quick as that is an awful one to be prescribed. You told me to take a capsule every three hours and I had to take only one dose."

In acute bronchitis when cough is frequent and painful and expectoration scanty, I know of no remedy that will yield as gratifying results as a quarter, or even a grain of apomorphine every two or three hours. It may be given in French syrup of lactucarium, or if a mixture be objected to the remedy may be combined with codeine in capsule. The remedy is far preferable to and equally as efficient as ipecac.

Mixtures containing apomorphine turn a greenish hue when kept for any length of time, but Murell states that in his opinion they do not lose efficiency or develop deleterious properties. My own experience is fully in accord with Murell's statement, and I need only add that of the hundreds of times I have prescribed this remedy I have never known injurious consequences to result or had occasion to regret its employment.

I heartily recommend the substitution of this drug for tartar emetic, ipecac, and lobelia in ordinary cough-mixtures.

When, however, iodide of potash is indicated, apomorphine cannot be combined in the same prescription on account of the incompatibility.

In conclusion, let me express the hope that the remedy will come into more general use as a expectorant, and that both physicians and pharmacists may cease to fear emetic effects when it is taken by the stomach.

Wherein this difference in action between its hypodermatic and oral administration lies, we are not able to say. One must simply accept the fact that such a difference does exist, and it is high time that it became known to the pharmacist.

Spraying of the entire length of the spine with methyl chloride is highly recommended in vomiting of pregnancy by *Sem. méd.*
S.

SELECTED PAPER

METCHNIKOFF'S THEORY OF PHAGOCYTOSIS: REVIEWED AND REFUTED*

By PROF. BUCHNER

An Address delivered at the Munich Medical Society

GENTLEMEN—The theory of phagocytosis which, on its immediate publication, gained almost universal professional approval, and arrested to such a great extent public interest, must, it goes without saying, have on its side many competent expert critics. I, myself, was, for a time, one of its staunchest supporters, but a few years ago many facts emerging into light induced me to review my judgment in regard to it, and ultimately compelled me to reject many good opinions previously formed. Indeed, I now believe the theory of phagocytosis, as expounded by Metchnikoff and his disciples, to be insufficiently supported by evidence and to have in it a large amount of subjectivity, or, more definitely speaking, to be determined, *ab initio*, by the Aristotelian *Tò tí ἦν εἶναι*. Lest it be thought that prejudice has aught to do with this criticism, permit me, gentlemen, to recall a few remarks I made about nine years ago: "Metchnikoff by his theory has enriched our physiological and morphological knowledge." . . . "his theory reveals how disease-germs are combated by certain cells whose function in the animal economy has hitherto remained an impenetrable secret" . . . "it makes manifest the meaning of the in-and-out wandering of the leucocytes, a phenomenon the phylogenetic significance of which, up to Metchnikoff's discoveries, lay beyond the surmise of the acutest physiologists" . . . "his theory has fathomed the mystery of infection and solved all the problems cohering thereto." No doubt language such as this is not the utterance of sober reason but of reason intoxicated by enthusiasm; the truth is I viewed new facts through the magnifying medium of the imagination. Nevertheless, the words quoted have im-

port as indication of how friendly disposed I then was, and as I now am, to the genial, the gifted, the noble Metchnikoff. But on reflection I saw that praise beyond merit injures twofold; it injures the giver, it injures the receiver. Hence one of the reasons for the searching and far-reaching question I subsequently put: Does the immunity of the organism, does recovery from infectious disease, depend wholly and solely on the devouring capabilities of the phagocytes? This question I felt bound to answer in the negative. With the progress of bacteriological science our knowledge as to the degree to which normal blood is inimical to micro-organisms grew more definite; it was also established that the cell-free serum possessed bactericidal properties. These properties Metchnikoff suggested might be due to difference in degrees of concentration—say, for instance, the concentration difference between serum and a nutrient medium in which bacteria thrive. His suggestion received support from the experiments of his pupil Haffkin, who demonstrated how keenly sensitive the typhus bacilli are to environmental change; but it was ultimately annulled by another experiment—serum heated to 55° displayed no hostility to micro-organisms; yet its concentration was exactly the same as that of serum which, not heated, remained actively hostile to like germs. Metchnikoff's explanation is, therefore, a fable. And if further proof of this were required it would be supplied by the circumstance, that the blood of a guinea-pig, affected with anthrax, loses none of its infectious activity by the addition to it of a 10-per-cent. solution of cane-sugar; contrarily its virulence is thereby increased. Manifestly, Metchnikoff's theory has now to recede or square accounts with the bactericidal potentialities of the cell-free juices of the body. It avails nought to say that the agent alexine does not come into existence until after the micro-organisms have been devoured. But the distinguished bacteriologist and his school aver "if all the phenomena of infection are not explicable by phagocytosis, neither can they all be explained on the hypothesis of bactericidal cell-free serum." Here we have, of course,

* Translated for *The Medical Press and Circular* by Mr. Wm. Dodd.

the old *tu quoque* argument; nevertheless, in its present application it is not without weight and ought not to be lightly dismissed the moment it has measured the weakness of Metchnikoff's position. Never, that I know, have I advanced or supported an alexine theory, implying thereby the existence in the blood of a ready-made substance destructive of, or obnoxious to micro-organisms. Such a theory would be as open to objection as that of Metchnikoff. Now, without declaring ourselves adherents of either doctrine, but gathering up the facts at hand and keeping our minds open to any new facts which may arise, let us proceed.

More than one bacteriologist has pointed to the variability in bactericidal power of the blood, a fact true not alone as regards animals of the same species, but as regards blood taken from the same animal at different periods. A not very striking discovery this, still its importance is great, inasmuch as it brushes aside many difficulties which might otherwise prove well-nigh unsurmountable. For example, one such difficulty is presented in the case of dogs exposed to anthrax virus. It is well known that a fully grown dog is almost invulnerable to anthrax; yet canine blood outside the organism exercises no specially lethal influence on its germs; in fact, it is not as actively inimical as the blood of a rabbit, an eminently susceptible animal. Striking as this contradiction of circumstances was, a reconciliation was effected by the labors of Belgieri Denys, who, in conjunction with his pupil, A. Kaisin, furnished us with the fruitful fact that the insignificant bactericidal influence of dog's blood, just referred to, mounted by leaps and bounds in consequence of the introduction into the system of the bacilli anthracis. Hence the dictum of this bacteriologist: If we may hope to get even an approximately accurate estimate of the bactericidal activity of the blood, our investigations must be conducted subject not to the condition of health, but of disease. Who, gentlemen, would be so rash as to profess to be able to predict the issue of a great battle from the incidents of the first skirmish? So also with the ani-

mal organism; its power of resistance, its preparedness for the impending struggle, its reserve strength can alone be calculated by the extent to which it yields to or repels the invading bacteria. Neglect this fact, and logic forces you to a conclusion antithetical to experience—namely, that the blood of the dog, and that of the rabbit are equally inimical to the *Bacillus anthracis*. And yet, in simile, one might regard the rabbit as a soldier who has fired off all his ammunition during the first engagement, the dog to another soldier whose cartridges are sufficient to last to the end of the fight.

But Denys and Haverly brought to light another fact, the proportional relativity between the numerical strength of the leucocytes, and the vigor of the blood's bactericidal potentiality which was found to increase along the stages of transition from hypoleucocytosis to hyperleucocytosis. Further they demonstrated that the germicidal faculty of artificially produced pleural effusion is contingent on the phagocytes present. To recognize this truth is no wise tantamount to an acceptance of Metchnikoff's view; for Messrs. Kathbach and Hardy, approaching the problem with German critical caution, arrived at another explanation:

• "May not," they said, "the leucocytes increase and excrete some stuff fatal to the majority of micro-organisms?" To me the idea appeared so pregnant with suggestion that, provisionally accepting its truth, I commenced a series of experiments assisted by Messrs. M. Kolb and M. Schulster, the result of which I will now bring briefly under your notice. Pleural effusion was produced by injection of sterile flour-emulsion, then drawn off and alternately frozen and thawed. That the germicidal properties continued active in the frozen state convinced us that these properties could not be conditioned by the devouring capabilities of the phagocytes. Again, Hain actually found the germicidal stuff in the substance of the leucocytes, the manufacture and output of which did not, however, necessitate the destruction of its source; they were processes of the phagocytes *in vivo*. Then Hain's results were

verified by A. Schuttenfrob, Hüppe, and Baill.

Now arises the question, Is there a definite special exciting entity under the influence of which the leucocytes assume their bactericidal function? Van de Velde answers, "Yes." Nay, he even asserts it is "leucocydin," a stuff he has succeeded in extracting from the *Staphylococcus pyogenes aureus*. To survey, then, the ground traversed. We find, first, a theory of phagocytosis, which is founded on the capability of the phagocytes to devour living micro-organisms; secondly, the alexine theory, implying the existence of a germicidal agent living ready-made in the blood; finally, the theory of Hain, which was supported by Schattenfroh, Hüppe, and Baill, and supplemented by Van de Velde. Are the problems that perplexed Pawlowsky, von Lowig, Richter, and P. Jacob now solved? Each one of you will answer this question for himself. I believe they are.

Still more recent investigations supply argument against Metchnikoff. How possibly can he square his theory with the result of one of Schattenfroh's latest experiments? A. Schattenfroh injected yeast-cells into a pig's peritoneum. Valourously enough the phagocytes advanced and devoured them. However, this was only a piece of mock-heroism; for yeast-cells are perfectly harmless; phagocytes or no phagocytes their stay in Nature's course would not be long. Acid-building bacteria were now introduced; the phagocytes appeared rather vigilant than valiant. Infectious germs were finally injected. The phagocytes did not advance; they invariably shirked the fight; they illustrated what has been termed the law of negative chemiotaxis. This experiment explains a phenomenon to which Metchnikoff himself has called attention. It is this: The more virulent the micro-organism, the less frequently are they found in the phagocytes. One other argument lends some support to Metchnikoff's tottering theory. Where reparative processes are active, undoubtedly, there and around, the phagocytes are strongly in evidence. Gentlemen, let us not confound the *post hoc* with the *propter*

hoc, reparation is not conditional—except, indeed, in a very circuitous and remote sense—by the presence of the phagocytes, contrariwise the presence of the phagocytes is conditioned by the progress of the reparative processes. As scavengers they come to eat up the *débris* of tissues, together with the dead and disintegrating germs.

From what has been said, it is clear that Metchnikoff has forced facts to conform to his *a priori* notions. No doubt the resultant theory appeals strongly to the imagination; nevertheless, it cannot find support amongst us, the cardinal article of whose creed is, that all theories must be solely and wholly deduced from objective verifiable data, and that only in the experimental and experiential methods of investigation lies the true principle of scientific progress.

Translator's Note.—While recognizing in Buchner's address a masterpiece of destructive criticism, the translator disavows adherence to the view put forth in it as explicative of the problems cohering with infection. Indeed, he (the translator) believes that it would not be very difficult to advance a solution of those problems, more in accordance than Buchner's with facts and reason, by subsuming them under the Hegelian principle embodied in the dictum: every entity comprises its own negation, and, therefore, carries with it the principle of its own destruction.

Fever a Beneficial Process

The question as to the effects of fever upon the human system is still subject to great controversy. In order to arrive at positive conclusions, Drs. Levy and Richter (*Berl. klin. Woch.*, No. 9, 1897) induced high temperatures in rabbits by puncturing the corpus striatum, and then inoculated these animals with pneumonia and diphtheria bacilli. At the same time they infected rabbits, not previously injured, with the same organisms. They found that the injured rabbits resisted the effects of the poisonous organism much longer than the uninjured ones, showing that the high temperatures in the former exerted a deleterious effect upon the micro-organisms. The authors, therefore, feel justified in maintaining that fever is beneficial to the human system, and ought not to be combatted by antipyretics. They find no objection to hydrotherapy, owing to its tonic and reconstructive action. S.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Akinesia Algera, or Apraxia Algera

In 1891 Dr. Möbius described a form of disease to which he gave the above name. Dr. Cavazzoni now reports two analogous cases (*Rif. Med.*, No. 16, 1898)). The disease consists in painful hyperesthesias of entire groups of muscles with their tendons, which may eventually lead to their atrophy. It generally affects hysterical and neuropathic females. One of the author's cases was strongly hysterical, and the treatment was without any effect; the other case had no hysterical stigmata and got well after six months' treatment with massage and suggestion. R.

Headache

Dr. Hingston Fox (*The Hospital*, March 5, 1898) says that during childhood the chief causes of headache are school-pressure and the rheumatic poison. The former class is especially common in children attending the public elementary schools; such children are subjected to mental stimulation under bad physical conditions. When the rheumatic tendency is present the proneness to headache is much greater.

In adolescence and young adult life many kinds of headache are prevalent. Firstly, the rheumatic headache, and one closely associated with it, due to overaction of the heart. In these cases alkalies, salicylates, and iodides are the remedies indicated. In headache due to anemia and constipation, saline purgatives especially, and iron in the anemic ones, generally effect a cure.

In migraine—meaning for this a periodical nerve-storm of well-known definite type—a most valuable guide to preventive treatment is the state of the arterial tension; if this is high, cannabis indica probably does more good than any other drug. The freshly made extract should be used, and the initial dose should not be more than a quarter of a grain, which should be cautiously increased. If on the other hand the blood-tension is low cannabis indica only aggravates the attacks.

In cases of headache in younger adult life, where the artificial tension is lowered, the heart's action is quickened. Full development of this condition is seen in Graves' disease, but all degrees of the condition in a lighter form are very common. The

headache is generally relieved by quiet and recumbency. Caffeine quells some of these headaches, and iodides and bromides relieve others.

In the well-marked type of headache, which may be termed congestive, the head is flushed and hot, the carotids pulsate visibly, while the hands and feet are cold. The headache often begins on rising in the morning, and is worse after exertion and meals. The blood-tension, contrary to what might be expected, is somewhat diminished. This form of headache is, the author believes, very well relieved by caffeine.

Arterial tension is apt to rise during middle period of life. The causes of this in the well-to-do classes are over-eating, alcohol, sedentary habits, and the gouty constitution. In the poorer classes, another set of conditions, scanty food, long hours of work, insufficient food, bring about premature old age of the vessels with resulting virtual tension. In the gouty, mercurials, purgatives, salines, and iodide, act well. In old age, with thickened arteries or in the premature old age of the poor, the treatment of headaches is that of the associated heart-condition. In such cases mercury is the sheet-anchor, whilst magnesium sulphate is, in the author's opinion, the best tonic for old age. S.

For What Period of Time Can Immunity from Diphtheria Be Conferred by a Single Injection of Antitoxin?

Dr. F. Gordon Morrill (*North Carolina Med. Jour.*, March 20, 1898) contributes a paper based upon observations made in the Children's Hospital of Boston. Of 1808 patients immunized at least once every twenty-eight days with amounts of serum varying from 150 to 500 units, seven had diphtheria; three from insufficient dosing, two within twenty-four hours of being injected, and two in whom the time of infection came twenty-three and twenty-two days, respectively, after being given an amount which has thus far proved entirely effective when given every three weeks. Of 829 to whom no antitoxin was given or in whom more than twenty-eight days elapsed after the injection, nine had diphtheria, besides three non-immunized adults.

So far as bad results from the injections are concerned, the only cases which the writer has seen where anything like dangerous symptoms appeared were those of a boy with a splenic leucocythemia, and another with a nephritis. In the latter instance the antitoxin caused a distinct increase of the albuminuria and dropsy. In another case in which the same clinical

symptoms were present and the urinary analysis corresponded very closely to that of the first, the injections produced no unpleasant effects. In all about 3000 injections have been given; and with the above exceptions, aside from an occasional urticaria and an insignificant and transitory albuminuria, nothing worth noting has followed them. Very rarely has the antitoxin been omitted or postponed, no matter how sick the patient may have been. In one instance of very severe cerebro-spinal meningitis in which no injections were given, the child contracted a diphtheria which proved fatal.

The author believes:

1. That immunity in any given case, of no matter how thorough exposure to diphtheria, may be conferred, for at least ten days, by the injection of a small dose (100 to 250 units) of serum, provided it is given twenty-four hours previous to actual infection.

2. That a larger dose (250 units for a child of 2, up to 500 units for one of 8 or over) will confer safety for three weeks—or to be a little more conservative, say twenty days—under similar conditions.

3. That no harm will result from the treatment in a vast majority of cases of sick children, and probably in no case of a healthy child provided the serum used is up to the present standard of purity. G.

The Differential Diagnoses between Diseases of the Sound-conducting and Sound-perceiving Apparatus

Dench (*Gaillard's Med. Jour.*) believes that, in chronic cases, the information obtained by ocular inspection is often entirely insufficient to enable the observer to determine the degree of impairment of function. Not infrequently evidences are found of either a slowly progressive inflammatory process within the middle ear, or the results of a previous acute inflammation, the otoscopic picture differing widely from the normal standard, yet the hearing may be scarcely affected, any impairment existing causing the patient no inconvenience. On the other hand, an examination with the otoscope may reveal no deviation from the normal standard, the drum-membrane appearing natural in color, position, luster, and structure, yet the hearing may be greatly impaired. As regards the location of the pathological processes met in the organ of hearing, the ear may be divided into the conducting and perceptive mechanism, the former comprising the auricle, external auditory meatus, drum-membrane, and the tympanic cavity and its contents, the perceptive apparatus including those

parts lying beyond the foot-plate of the stapes, being the bony and membranous labyrinth, the terminal filaments of the auditory nerve, the nerve-trunk itself, the basal nuclei, the cortical auditory areas, and those collections of nerve-fibers which join these nuclei to one another and afford communication between them and other cerebral ganglia. Any affection of the conducting mechanism is, upon functional examination, characterized by certain definite signs without reference to the precise situation of the pathological process, whereas diseases of the perceptive mechanism give rise to a series of phenomena differing entirely from those produced by diseases of the conducting apparatus. In order to locate any pathological process regarding either apparatus, a knowledge of quantitative and qualitative conditions of the normal ear is essential. The former test may be made with the watch or the acoumeter of Politzer, qualitative audition being tested by a series of musical tones. When the conducting mechanism is affected, not only is quantitative audition impaired, but qualitative audition is affected in so far as the ability to perceive the lowest tones of the musical scale is interfered with in direct proportion as the quantitative impairment increases. This is true, no matter where the obstruction to sound-conduction exists, and whether it be caused simply by a mass of cerumen, or to increased tension in the ossicular chain. High tones are heard exceedingly well, the upper tone-limit being, in some cases, above the normal standard. Where the nervous portion of the organ is involved, the reverse is true, the upper tone-limit being considerably reduced. This is particularly the case where the affection of the perceptive apparatus is secondary to an inflammatory process within the middle ear. The lowering of the upper tone-limit, in these cases of secondary labyrinthine involvement, is easily explained, as the portion of the labyrinth immediately adjacent to the middle ear is concerned in the perception of the highest notes of the musical scale. In primary labyrinthine disease, however, a considerable lowering of the upper tone-limit is usually found, the reason for which has always been largely a matter of conjecture; it has seemed to Dench, however, that it might be explained by the fact that the lower part of the labyrinth, being more freely supplied with blood-vessels than the upper portion, is, consequently, more susceptible to the circulatory changes. In addition to the qualitative tests, much information is gained also by the determination of bone-conduction. In diseases of the conducting ap-

paratus, bone-conduction is exaggerated, the reverse being true when the perceptive mechanism is affected. Contrary to the experience of certain investigators, the author is convinced that conduction through the media of the skull is affected by the age of the patient. In almost all over 40 years of age, in whom the hearing is perfectly normal, the vibrating tuning-fork placed upon the mastoid will be heard for a considerably shorter period than in younger patients. After the age of 50, unless there is some obstruction to sound-conduction, the tuning-fork placed upon the forehead, in the median line, may not be heard at all, although it be perceived fairly well over the mastoid process. In cases where a certain amount of labyrinthine involvement has followed a chronic non-suppurative or suppurative otitis media, it is often of value to determine exactly how much of the impairment of function is due to middle-ear inflammation, and how much depends on labyrinthine disease. This can be determined in a fairly accurate manner by a comparison of the air- and bone-conduction, for various notes of the musical scale. L.

Exophthalmic Goiter Treated by Means of Galvanization

Dr. E. Bertran (*Arch. de Gine., Obs. & Ped.*, No. 5, 1898) has obtained good results from the use of the constant galvanic current in the treatment of Basedow's disease.

The principal advantages obtained with this electro-therapeutic method were the diminution or the disappearance of the exophthalmus, gradual improvement of the general condition, diminution of the disordered cardiac innervation, and, finally, diminution in volume of the hypertrophied thyroid body. G.

Acute Arthritis and Epiphysitis of Infants and Young Children

F. Eve, of London (*Pediatrics*, Vol. IV, No. 8, p. 337), in a consideration of the subject, states that the affection is most frequent and most typical in infants under a year old, but practically the same condition is observed in older children. In the latter an epiphysitis is less likely to cause suppurative of the joint; or if it does so, this occurs later. The author reports in detail two cases, serving as a clinical picture of acute arthritis. In the experience of the author the knee is more often affected than any other joint, and not infrequently more than one joint is involved. The primary lesion is an osteo-myelitis, situated in the growing bone at the extremity of the diaphysis and in close proximity to the epiphysial disk. Hence separation of the

epiphysis from the shaft is not infrequent, especially when the head of the femur is involved. A condition of diminished local resistance may have been determined by a blow or sprain or by exposure to cold. Cases of arthritis following the acute fevers are sometimes spoken of as scarlatinal, typhoid, etc. The primary osteo-myelitis frequently gives rise in infants to an abscess occupying the epiphysial line. In other cases again, the same septic process gives rise to a limited patch of necrosis involving the extremity of the diaphysis, the epiphysial disk and occasionally a portion of the epiphysis. Acute arthritis may be tubercular in origin. The diagnosis is obvious, and treatment is practically that of abscess. L.

The Treatment of Obstinate Dropsies

Whether a dropsy be of cardiac, renal, or hepatic origin, the treatment is nearly the same, says Prof. James Tyson (*Therap. Gaz.*, Jan. 15, 1898), the difference in the treatment being determined more by peculiarities in the individual case than by etiological conditions.

When a patient is waterlogged, his tissues distended with serum, with effusion into one or both pleural sacs, and probably into the peritoneal cavity, our object is to remove this stored-away water as quickly as possible. There are two ways of accomplishing this object: first by reducing the injected liquid to a minimum, and second by increasing the output of liquids. The first point is too frequently ignored; in fact, many physicians give large quantities of water for its supposed diuretic effect, and opposite results are often obtained. The author usually limits the diet to two or four ounces of diluted milk every two hours, keeping this up until the patient complains of hunger. It seems as though under these circumstances the interstitial effusion is being used up as food. Another indispensable condition in the proper treatment of dropsies is absolute rest in bed, as this saves the heart an enormous amount of work.

Having secured rest and a restricted diet we begin our attempts at increasing the output of liquid through the natural channels: the bowels, the kidneys, and the skin. Never attempt to secure the effect of diuretics without the preliminary action of a purgative. Of purgatives the best are the salines. The author prefers Rochelle salt, in half-ounce to one-ounce doses, before breakfast; it should be given in as small a quantity of water as possible, preferably not more than four ounces. Compound jalap powder in one- to two-drachm doses,

calomel (7 to 10 grn. with an equal amount of sodium bicarbonate) and blue mass are also very useful. If purgatives cannot be given by the mouth, for any reason, the following combination may be given by the rectum: Magnesium sulphate, two ounces; boiling water, three ounces; glycerin, one ounce. Having secured a free action of the bowels, we begin to administer diuretics. The profession is practically a unit as to digitalis being the supreme diuretic, but some diversity of opinion exists as to which preparation of it is the most efficient. The author considers the tincture the best. He gives it in large doses at long intervals: 10 minims (20 drops) four times a day, or 15 minims (30 drops) three times a day. As digitalis is slow in its action, at least forty-eight hours usually supervene before any effect is noted, and we should wait at least that time before deciding as to its efficiency. Should the pulse fall to sixty per minute, the digitalis should be discontinued. Nitroglycerin is advantageously associated with the digitalis, but as its action is of short duration it should be given at short intervals (1-100 to 1-50 grn. every two hours).

Next to digitalis—in fact acting in some cases where digitalis does not—comes theobromine (Merck). The author prescribes it in hot milk in doses of 7 1-2 grn., six times a day (or 45 grn. in twenty-four hours). This is kept up usually for six days, when digitalis is substituted. In some of the author's cases the effect of the theobromine was simply marvelous. Diuretin the author considers comparatively inert; with caffeine he is also dissatisfied. With strophanthus he obtained good results only when he employed it in doses as large as those of digitalis, and he is therefore greatly disappointed in it. Another diuretic which he found useful, especially in the dropsies of a renal origin, is sparteine sulphate. He gives it in 1-4-grn. doses, 2 to 4 grn. in the twenty-four hours. The old-time combination of calomel (1-2 grn.), digitalis (1 grn.), and squills (1 grn.), given in pill form every three hours sometimes works when all other remedies have failed. The third channel for the elimination of water, the skin, is not as satisfactory as the bowels or kidneys, profuse diaphoresis being generally accompanied by such intense weakness as to make the procedure dangerous. Still we must sometimes have recourse to it. Perspiration is induced by the hot-air or vapor bath, the hot wet frock and hot-water bottles. The vapor bath is preferable to the hot-air bath. The unpleasant sensation often felt in the head may be averted by tying a handkerchief wet

with cold water tightly around the forehead. Of drugs there is only one markedly efficient diaphoretic—jaborandi, or its alkaloid pilocarpine. The latter is best administered hypodermically (maximum 1-4 grn.), and if associated with artificial warmth a powerful effect may be produced. Should edema of the lungs arise, it may be easily controlled [always?] by a hypodermic injection of 1-100 or 1-50 grn. of atropine.

The Schott or Nauheim treatment by saline carbonated baths, and resisted exercise is a very valuable auxiliary in the treatment of dropsies, especially of cardiac origin, frequently superior to all remedial treatment. The author believes that it is not necessary to go to Nauheim for the baths; they can be imitated at home by dissolving sodium chloride and calcium chloride (4 to 11 pounds of the former and 6 to 12 ounces of the latter) in 40 gallons of water, and introducing sodium carbonate and hydrochloric acid to generate carbon dioxide (NaHCO_3 , 1-2 to 2 lbs., and HCl , 25 per cent., 12 ounces to 3 pounds).

Massage is also an excellent adjuvant in the treatment. The author has seen many a limb swollen and distended to almost stonelike hardness rendered soft and flaccid by a half-hour's massage.

In those disheartening cases, where all the resources described fail of their purpose, we will be obliged to have recourse to paracentesis, to punctures, and to incisions.

R.

Acute Abdominal Distension in Children

Geo. F. Still, of London (*Pediatrics*, Vol. IV, No. 6, p. 241), reports in detail, with accompanying autopsies, five cases of acute abdominal distension occurring in children under 3 years of age, supervening usually in the course of a severe illness, and generally, but not always, shortly before death. Unlike the meteorism of acute peritonitis, or acute inflammatory conditions in the intestine, this form of abdominal distension may occur without obvious local cause. In some cases, however, the primary disease has been complicated by diarrhea before the distension appeared, thus considering it, from the pathologists' point of view, a complication of the secondary diarrhea or gastroenteritis. Clinically, it is a serious complication of the original disease, bronchopneumonia being the most frequent. The evil effects of this condition are in most cases manifestly due to the interference with the action of the diaphragm, as is shown by the rapid and labored respiration; it seems likely that there is also interference with the action of the heart, which may cause sudden death. The morbid anatomy

shows three main varieties of abdominal distension, according as (1) the stomach, (2) the small intestine, or (3) the large intestine is involved. The treatment must be prompt and vigorous, the child being made to lie on its side to relieve the pressure on the diaphragm somewhat. General exhaustion must be combated by stimulants, hypodermically; creosote in minim doses by the mouth may be of use in decreasing the gaseous distension. The passage of a long soft tube per rectum or an esophageal tube if it be suspected that the stomach is specially affected, has given some relief. L.

Streptococcic Pneumonia

Dr. Denny says (*Boston Med. Surg. Jour.*, April 14, 1898) that it is of very great importance to be able to make a diagnosis of streptococcus pneumonia, whether mixed or not with pneumococci. It will not help us greatly in the treatment—not until we have an effective serum therapy, an anti-pneumococcic and an antistreptococcic serum—but is very useful in making the prognosis. In pneumonia, when the family and friends are anxiously inquiring on what day the crisis will take place, it is of practical value to the physician to be able to tell that in a certain case there will be no crisis, that the course will be a long and severe one, and that convalescence will be slow.

The points of differential diagnosis are: microscopical examination of the sputum, in which streptococci are found, the tendency of the local process to wander, the involvement of the upper lobe, the long and irregular type of the fever, and the much-delayed resolution. R.

The Open-air Treatment of Phthisis in England

F. W. Burton-Fanning (*The Lancet*, March 5) describes the experiment made by him at Cromer. The home stands in three acres of ground about 250 feet above, and a quarter of a mile from the sea. There are a veranda, a summer-house, and a shelter with two movable side-walls, which consist of panels of wood and glass. These are placed in position each morning after the direction of the wind has been observed. The patients adjourn to one or other of the shelters at 8:30 every morning and pass the rest of the day there in long chairs. As a rule they come indoors at sunset, but on particularly dry nights, both in winter and summer, they have remained out of doors till 10. Besides warm overcoats, they are enveloped, in cold weather, in one or more rugs, and great use is made of sacks thickly lined with wadding, into which they put their legs, and to which, when required, a

hot-water bottle is added. If the patient feels the cold he is instructed to use an additional wrap, and if that is insufficient he is brought inside. Moderate evening fever (below 102° F.) has been considered no contraindication to following the treatment in its entirety. For nasal or bronchial catarrhs patients were not kept wholly indoors, but were made to avoid the slightest damp. As far as one sign goes the author thinks observation of the patient's circulation forms the best guide to his management. For those who have any perceptible weakness of the pulse absolute rest should be enforced. No routine use of drugs has been made, but all symptoms and intercurrent ailments have been treated as immediately and appropriately as possible. An ordinary tincture has been given for excessive cough and to help sleep; when necessary rhubarb, gentian, or soda, etc., have been administered to help digestion, and cascara or other aperients have been administered for the same purpose. On all but the stillest days confinement to the shelters is insisted upon, wind being inimical from its cooling of the body from convection of heat. About the second week after a patient's admission, increase of appetite and strength began to be perceived and a diminution of night-sweats.

Lupus Vulgaris Treated by Means of the Röntgen Rays

Dr. Schiff (*Arch. f. Derm. u. Syph.*, Band 40, Heft 2 and 3), before the Vienna Dermatological Association, gives the history of two cases of lupus vulgaris treated with the cathode-ray.

The first patient was a girl who since her third year had been afflicted with a lupus of the skin of the left forearm. At the time Dr. Schiff treated her she was 14 years of age, and six years before had been treated by Dillroth with Koch's tuberculin without results. The rays were turned on the diseased arm two hours each day. The first sign of reaction manifested itself on the tenth day; the arm reddened and swelled about the lupous infiltrate, and discharged freely. Gradually the crusts fell off, leaving the surface slightly red and ulcerated. The ulcers became clean and granulating, warty excrescences the size of a pin appeared upon their base. Upon the nineteenth day the treatment was discontinued. The warty excrescences fell off, leaving a well-marked pit. The lupous nodules in the cicatrices of the forearm were reddened as in the ulcerating lesion, the nodules swelled and fresh ones appeared. Finally the epidermis of the hand and forearm came off and the nodules disappeared. At first

cicatrization went on rapidly, but later proceeded so slowly that after two months and a half it was not completed. The lupous infiltrate not exposed to the rays remained unchanged.

The course of improvement under this treatment of the second case treated was similar to the one described. W.

The Serum-diagnosis of Yellow Fever

P. E. Archinard, R. S. Woolson, and J. J. Archinard (*New Orleans Med. and Surg. Jour.*, Feb., 1898), in an instructive paper, offer a series of 100 cases in which the agglutinative test was applied to the *Bacillus icteroides* and controlled by its application to the *Bacillus typhosus*. The first fifty cases were taken from typical yellow-fever cases at the isolation hospital and from private practice. The second fifty cases are of suspect blood sent in to the laboratory for the application of the Widal test of typhoid fever—these including cases of typhoid fever, yellow fever, and malaria. The blood in the yellow-fever cases was taken at various stages of the affection, generally, however, late or during convalescence. The Johnston dried-blood method on glass slides was followed, and in some cases the slides were kept for two months before the application of the test. In the experiments the dried blood was dissolved in sterile water. The cultures used were bouillon-cultures, eighteen hours old, very active, and free from adventitious clumps, foreign bodies, zooglea, etc., that could in any way interfere with results. In the course of their experiments the authors observed that normal blood possesses some agglutinative power when used in concentration, but this factor can be eliminated by resorting to higher dilutions; also that yellow-fever blood in the proportion of 1 to 5 will cause agglutination of the *Bacillus typhosus*, but in their subsequent work this fact was eliminated by higher dilution. Finally, toward the end of the work, as their results were becoming known, cases of yellow-fever suspects were sent in for serum-diagnosis, cases 98, 99, and 100, with typical symptomatology, blood taken on the second day in each giving prompt and characteristic reaction with *Bacillus icteroides* and negative with *Bacillus typhosus*. The question of heat and cold did not enter materially in their experiments, the laboratory temperature remaining uniformly about 65 or 70° F. Experience taught the authors that cultures of *Bacillus icteroides* thirty-six hours old were preferable, the bacillus being a slowly growing organism, and at that age very active and sufficiently abundant. Cessation of motion as well as agglutination

constituted the criteria of the reaction, and in proportion 1 to 10, thirty minutes was considered the limit for positive diagnosis. In the fifty cases of yellow fever in the series, agglutination with cessation of motion was obtained in over 70 per cent. of cases, the reaction being as characteristic as in typhoid-fever cases. From experiments the following conclusions were drawn:

1. The practical value of serum-diagnosis in yellow fever was demonstrated.
2. That it may be utilized as early as the second day, and be exceptionally present as late as nineteen years after the disease.
3. That a dilution of 1 to 40, with a time-limit of one hour, is to be preferred for accuracy of diagnosis.
4. That the dried-blood method of Wyatt Johnston is perfectly satisfactory.
5. That the serum-diagnosis of yellow-fever should be instituted in all countries wherein the disease may exist endemically, or which may be occasionally visited by epidemics.
6. That it is especially valuable at the beginning of epidemics in the diagnosis of early and doubtful cases. L.

The Pathological Changes in the Middle Ear Occurring during Measles and the Clinical Treatment of These Cases

The subject of the paper suggested itself to A. O. Pfingst, of Louisville (*Pediatrics*, Vol. V, No. 3, p. 98), through a case seen in consultation, in which otorrhea with very obscure symptoms developed during measles. When the eruption had about disappeared the child suddenly developed high fever, which lasted for some days, no chill preceding or accompanying it. Close questioning of the mother elicited the information that upon the day previous to the sudden rise in temperature the child had momentarily complained of a slight pain in the left ear, but being so mild it was not given a further thought by the mother. Examination of both drums showed them to be reddened and bulging distinctly behind and below the manubrium. Both membranes ruptured shortly thereafter, freely discharging a yellow, creamy pus. The temperature subsequently returned gradually to normal. The discharge gradually subsided under gentle irrigation of the canals of the ears with a warm solution of permanganate of potassium, a teaspoonful of a saturated solution to a pint of distilled water. Tobieitz, Bezold, and others look upon the involvement of the mucous membrane of the ear as an independent condition identical with the affection of the skin, and of the other mucous membranes. From the

results of forty-four autopsies by Tobeitz, Bezold, Habermann, and Moos, was learned: First, That severe cases of measles rarely if ever run their course without involvement of the middle ear, probably of both sides. Second, That the inflammatory process usually runs its course without subjective, and often without objective symptoms, and only now and then leads to spontaneous perforation of the drum. The autopsies also revealed that in every case the tympanum contained an exudate in sufficient quantity to be seen with the naked eye, usually filling the entire cavity. The mucous membrane was reddened in irregular blotches or areas, and considerably swollen. The Eustachian tube was often swollen and reddened, but only in few instances contained pus. Hensch says: If fever continues in measles without an apparent cause, a careful examination of the ear should be made, as caries, deafness, and other sequelæ are often seen which can be traced to neglected cases of otitis. L.

The Antitoxin Treatment of Diphtheria

Dr. M. D. Jones says that analyzing the enormous mass of evidence, it can be affirmed, without fear of successful contradiction, that the following facts have been demonstrated (*Therap. Gaz.*, Vol. XXII, No. 4, p. 247):

1. That diphtheria antitoxin, where generally employed, has reduced the mortality from diphtheria at least one-half.

2. That it has distinctly favorable effects on the clinical course of the disease, shortening it and lessening its severity.

3. That the earlier the treatment is commenced the better the results obtained; the mortality, when adequate doses of antitoxin have been given within the first forty-eight hours of the disease, not exceeding 5 per cent.

4. That antitoxin is a specific against true diphtheria, and less efficacious in mixed infection, but even in these forms of diphtheria it is of decided benefit.

5. That it is not necessary to wait for a confirmatory bacteriological diagnosis, but that in every clinically suspicious case of membranous angina, especially in children, a medium dose of antitoxin should immediately be given, and repeated if required by the further development of the case.

6. That antitoxin is a remedy without serious after-effects in the doses which have ordinarily been employed; that it has no injurious action on the kidneys, the heart, or the nervous system; that it does not entirely prevent albuminuria, heart-failure, and post-diphtheritic paralysis, because the

effects of the diphtheritic toxin which has already entered the system before the administration of the remedy, no matter how soon the treatment is begun, are not always completely counteracted by the antitoxin.

7. That the protection conferred by immunizing doses of antitoxin is almost absolute for a short period of time.

8. Antitoxin should begin in early or mild cases in not less than 500-unit doses; for moderately severe or recent laryngeal cases in not less than 1000-unit doses; and in severe faucial or laryngeal cases in not less than 1500-unit doses. R.

An Open Safety-pin Swallowed

At the meeting of the Academy of Medicine of April 11, Dr. B. Farquhar Curtis exhibited a safety-pin, which had been swallowed while open by a baby 6 months old. On the morning following the accident the child was brought to the Post-Graduate Hospital, where an x-ray photograph of the alimentary canal was taken, which disclosed that the pin was lying just within the anus. It was easily extracted. The points of interest in this case are: first, the fact that an open safety-pin had caused but very slight trouble (the temperature did not rise above 101° F.), and second, the very rapid passage which the pin made through the alimentary canal. The parents had given no purgatives, feeding the child on solid food. R.

Seminal Vesiculitis and Prostatitis (Post-gonorrheal); A Study of Three Cases

Dr. George Knowles Swinburne (in the *Jour. of Cut. and Gen.-Ur. Dis.*, March, 1898) gives his conclusions as follows:

1. If you find a condition of the prostate and seminal vesicles in patients who have never had gonorrhea, which seems to be of a catarrhal nature, which may or may not give rise to symptoms, these symptoms, if present, are apt to be neurasthenic in character; they are benefited by local massage.

2. In chronic urethritis and at the end of prolonged urethritis, or where the posterior urethra has become invaded, the seminal vesicles and prostate should always be examined.

3. Where epididymitis has occurred, seminal vesiculitis is very apt to exist also. This, however, may clear up spontaneously.

4. Tubercular processes should, if possible, be excluded, for massage is apt to render their condition worse.

5. Where live spermatozoa are found by stripping after the urine has stood for some time, it is a good sign that the mucous membrane of the seminal vesicles secretes the

proper fluid for preserving the life of the spermatozoa.

6. Stripping the seminal vesicles is a good method of testing for sterility, as it shows whether the ducts between the testis and seminal vesicle of corresponding side are patent.

It may, however, fail.

7. It is as necessary to train the finger in making examination for this condition as in making a vaginal examination.

8. Sometimes at the beginning of treatment nothing, or but little material will be expressed. If the treatment is continued, more and more material will be expressed.

W.

Mechanical Treatment of Heart-disease

That a more enlightened form of kinetic treatment for heart-disease will result in help to a number of patients is the statement made by Colombo (*Gaz. med. di Torino*, Vol. XLVIII, p. 40). The mild forms are treated to advantage by the lighter Swedish gymnastic movements, and these may subsequently give place to Oertel's more active measures. The Swedish movements dilate the arteries and arterioles, improve the nourishment of the tissues, and take a large amount of work from the heart-muscle. The Oertel movements are more of service as direct heart-stimulants.

J.

The Action of Blood-serum, Normal and Pathological

In *Virchow's Archiv.* Vol. CXLIX, p. 405, A. Albee presents a series of observations on the action of various forms of blood-serum. He injected into rabbits healthy blood-serum and the serum from cases of epilepsy, uremia, pneumonia, puerperal sepsis, and chronic bronchitis. The injections of human healthy serum were borne up to doses of 0.5 to 11 c.c. per kilogramme of the animal's weight. The other serums produced convulsions and death within a short time, in doses of from 4 to 5 c.c. per kilogramme of the body-weight. The nervous system seems to be most affected, and the kidneys sometimes show hemorrhagic nephritis.

J.

Exophthalmic Goiter in Children

Pediatrics, Vol. IV, No. 12, in an editorial says that although isolated cases of exophthalmic goiter have from time to time been described in children, the fact that its symptoms differ to some extent from those seen in adults has prevented its full importance from being recognized. The disease has, however, been more studied of late, particularly by Baldwin, A. Ehrlich, and Kronthal, and our knowledge has been sum-

marized in three important papers by Ferdinand Steiner, of Vienna, who has collected forty-four cases, including three of his own. He remarks that while one hysterical patient in eight is a child, a doctor is fortunate who sees exophthalmic goiter in a child once in fifty cases; the sexual proportion is rather more than two to one in favor of the female. The symptoms usually come on successively and not simultaneously; about a sixth of the cases are imperfect. In 40 per cent. of cases the heart-symptoms are the first to appear, in 35 per cent. the exophthalmic, in 25 per cent. goiter, and in 10 per cent. tremor; sometimes, as the figures show, two symptoms appear simultaneously, or the disease may begin with secondary rather than with cardinal symptoms. The disease reaches its height in children distinctly sooner than in adults. To sum up, the points in which the exophthalmic goiter of children differs from that of adults are as follows: The development of the disease proceeds more rapidly, the tachycardia is much less marked, the subjective sensation of palpitation is less conspicuous, the thyroid affection is constantly present, while the exophthalmic signs are confined to a relatively small proportion of cases. Sexual disturbances are absent, but a combination with chorea is relatively frequent. All the appearances which have a definite anatomical basis are constant, while the concomitant functional disturbances, mainly hysterical in type, are variable and inconstant, facts which harmonize with the slight and simple characters of infantile hysteria. The writer suggests that if all cases of chorea were carefully examined with a view to the symptoms of exophthalmic goiter the latter would not be found so rare in children as is commonly supposed.

Chorea with Acute Delirium Occurring in the Course of Scarlatinal Bright's Disease

At a meeting of the Philadelphia Pediatric Society, held Oct. 12, 1897, Dr. Charles W. Burr reported a case of the above, the patient being a boy of 17, who had scarlatina, which was followed by dropsy six weeks before admission to hospital, choreic movements having appeared one week previous to admission. There was general anasarca, and the choreic movements were fairly severe. The urine contained casts and a large amount of albumen. The choreic movements became extremely severe, marked delirium appearing. Improvement followed, and in a week he was almost free of movements and the dropsy much decreased. Two weeks later all symptoms returned with great severity, and

death occurred about two months after admission. An autopsy was not permitted. Dr. Burr believed the delirium was due to nephritis. No direct connection between scarlatina and chorea could be traced, since both are frequent but occur only rarely, in connection with each other. The same is true of Bright's disease and chorea. The fact that valvular disease of the heart is an almost constant accompaniment, and that rheumatism is so frequently associated with chorea, compels a belief in their close relations. L.

The Treatment of Neuritis

Dr. Pope says that nearly all cases of neuritis, traumatic and non-traumatic, have as a predisposing cause a toxic condition of the system, and the channels of excretion should therefore be stimulated to their utmost (*Med. Fortnightly*, April 1, 1898, p. 188). If the case is seen at the start an active mercurial purge, followed by a saline, should be administered. After that, the following prescription in teaspoonful doses every three or four hours acts very beneficially:

Ammonii Bromidi..... 15 grn.
Ammonii Salicylatis..... 2 grn.
Liq. Potassii Arsenitis..... 1 drop.
Syrupi..... 5 drops.
Aque menthol pip, q. s., to make 1 dr.

Should the pain be intolerable, then we must have recourse, though reluctantly, to morphine; but the deleterious effects of the latter may be greatly lessened if with each dose of morphine we also inject 1-60 or 1-120 of strychnine nitrate. The pain is also often relieved by wrapping the limb tightly in gauze soaked in a hot solution of sodium bicarbonate. Potassium iodide is also administered in moderate doses, and for a long time after the acute stage passes off the above prescription is dropped, and strychnine nitrate is commenced systematically; the only way to administer it is by the hypodermic syringe. Electricity we should use only after all acute inflammation has subsided. Then it should be used daily for a long time. The positive pole is placed over the painful area, and the negative over the nerve-end. Massage is also of very great benefit. R.

Frambesia

Arthur Powell, in the *Indian Lancet*, Nov. 16, 1897, says that frambesia is a non-infectious, easily inoculable disease characterized by general eruption of raised, moist, granulomata, occurring endemically in the West Indies, West Africa, South America and Ceylon.

The belief formerly held that it is confined to the negro race cannot be entertained, as,

in addition to the Ceylonese and his own cases, an odd case has been recorded as occurring in a European.

The initial lesion, a papule, usually appears on an old scar or sore which rapidly develops into a moist yellow fungoid tubercle or granuloma. Shortly after, or at the same time, a similar eruption appears all over the skin. The tubercles are raised above the surface and are moist and dirty in color, resembling the condylomata of syphilis.

The tubercles vary in size from a grain of wheat to a large walnut; they are covered with a moist secretion or a thin scab which is highly contagious. He had not noticed any great fetor as described by other authors. This is accounted for by the personal cleanliness of his patients, who were jungle coolies.

Some of the granulomata assume an annular shape.

The constitutional symptoms of frambesia are, as a rule, slight. There may be a little fever at the onset, and if the disease lasts long or is severe, anemia may supervene.

Children pursue their games and adults their occupations while the eruption exists.

Without treatment the disease lasts from a couple of months to three years or more. One attack is said to protect the individual permanently.

The granuloma leaves a dark, pigmented spot which fades slowly. In two of the doctor's cases there are permanent depressed scars, probably the result of a vigorous local treatment with silver nitrate and sulphate of copper. W.

A New Method of Producing Monocular Diplopia, and its Application in Pretended Blindness of One Eye

The usual methods of detecting simulated blindness of one eye still leave something to be desired in the case of intelligent malingerers, especially of such as have some knowledge of optics. Baudrv, however, has devised an apparatus (*Wiener klin. Woch.*, Vol. X, No. 41) which overcomes most of the disadvantages.

The apparatus consists of a prism supplemented at its base by the juxtaposition of a piece of plane glass equal in thickness to the width of the base; the prism itself is divided near its center by a section parallel to the base; it thus consists of three pieces, the whole shaped like a piece of the edge of bevelled glass. The apparatus is mounted in a brass cell, covered on both sides. The cover is pierced on each side by a central opening of 6 and 3 mm. apertures respectively. By a simple mechanism the three

pieces of glass slide in the mounting, so that one or other of the two dividing lines with the parts of the glass adjacent may thus be placed before the pupil of the seeing eye—in other words, either the base of the prism and the piece of plane glass adjacent or the two pieces of the prism itself. Inasmuch as the two dividing lines and adjacent parts look exactly alike, monocular and binocular diplopia can be produced with the greatest ease and without the subject's knowing, even if acquainted with the apparatus, what variety of diplopia (whether monocular or binocular) is present at any given instant.

The method of using the apparatus is simple. The eye that is alleged to be blind is lightly covered by the examiner's hand, and the subject asked to look at the test flame two or three meters distant and covered with the dark red glass. The apparatus is then placed before the seeing eye, so as to bring the dividing line between the base of the prism and the piece of plane glass into coincidence with the horizontal diameter of the pupil. The patient sees two lights. The instrument is now removed and adjusted, without his knowledge, so as to bring the dividing line in the prism itself before the central aperture in the metal cell, and placed again before the seeing eye, the other eye being left uncovered, apparently unintentionally. If the patient now sees double he is convicted, for the diplopia is binocular. If the simulator stubbornly denies the existence of diplopia at first, both phases of the procedure may be repeated in reversed succession. G.

The Treatment of Excessive Sweating

The treatment of excessive sweating is constitutional and local. The best remedies in general hyperidrosis, according to Dr. Saucher (*Jour. des Prat.*, October, 1897), are atropine, agaricin, tannic acid, and calcium phosphate. They all act very favorably in symptomatic sweating, but in the idiopathic variety they are useless. In the latter, tonics, such as iron and quinine, are indicated. In nervous persons, antispasmodics, such as potassium bromide, ammonium valerianate, etc., are useful if given in large doses for a long time.

Among local applications, alcoholic lotions, vinegar, lead-water, tannin in alcohol (15 grm. to 8 oz.), borax, or alum in water (2 1-2 dr. to 8 oz.) are very useful, and give speedy relief. In sweating of the feet, the author recommends a decoction of oak-bark, with about 5 dr. of sodium borate to each quart, as a foot-bath. After the bath the feet should be dusted with a powder consisting of 3 oz. of chalk and a 1-2 dr. of salicylic acid. It is also well to separate the

toes by a small piece of lint in order to prevent maceration of the skin. In obstinate cases the constant current applied to the involved parts does good. In the condition known as bromidrosis—where the sweat has an offensive odor—the author recommends the following solutions: Alcohol, 1 qt.; borax, 5 dr.; tr. benzoin, 4 dr.; 1- or 2-per-cent. solution of potassium permanganate; a weak solution of iron chloride; or a 5-per-cent. alcoholic solution of naphthol, to which is added a small quantity of glycerin. R.

Eruptions of Sudoral Origin

Perrin (in the *Ann. de Derm. et de Syph.*, 1897, No. 11) discusses the eruptions that occur during the summer, associated with profuse perspiration. Many of these have a furunculous aspect, and are coincident with sudamina, miliaria, dysidrosis, and sudoral exanthemata. These eruptions occur most frequently in children and women. The favorite sites are the face, scalp, neck, and upper part of the trunk, the dorso-lumbar region, and the flexor surface of the upper extremities, where the skin is delicate and the secretions active. The eruption consists of nodes, frequently in large numbers, with or without the production of pus, tubercles, and papulo-pustules. These lesions do not all suppurate, some of them become indurated, and finally disappear. If treated properly and placed under hygienic conditions cure is rapid. Under the influence of the sudoral flux these eruptions, like sudamina and miliaria in their nature, present a suitable soil for the growth of staphylococci, these acquire great virulence, causing adenitis or periadenitis. They penetrate the sudoriparous glands and the pilo-sebaceous follicles. W.

Prognosis and Treatment of Locomotor Ataxia

After discussing the etiology and symptomatology of this disease in *The Charlotte Med. Jour.* (Vol. XII, No. 2), Dr. Curran Pope gives the following points in reference to the progress and treatment:

The prognosis depends upon the stage of the disease at which proper therapeutic measures are undertaken.

In the earliest stages the progress of the disease may be checked, then there follows a retrogression of the symptoms which is to the patient practically a cure.

The same may be said of a patient in the second stage, although, of course, the retrogression of the symptoms does not continue so far that there is an absolute return to normal conditions. Dr. Pope refers to one case which had advanced so far that the

ataxia was well marked, and which improved so that to-day all that remains to indicate that the condition ever existed are a small, fixed pupil, and an absent knee-jerk.

In the third stage treatment is hopeless; all that the physician can do is to make the patient comfortable.

The treatment, if there is specific history, should be initiated by a course of mercurials and iodides. If there is no specific history, or other indication of syphilitic infection, these should be omitted.

The first step in the treatment is instructing the patient in the hygiene of his condition. The ataxic must be made to realize that he is a crippled person, and like the crippled he must take care of himself.

Careful attention should be paid to the condition of the bowels, and an attempt made to establish a regular habit of and hours for evacuation without dependence upon laxatives. When a laxative is indicated cascara sagrada should be employed.

The condition of the bladder should be carefully watched. Early and frequent use of the catheter is productive of good.

Regarding the general treatment the most important factor is rest, which should be thorough and continuous.

Of all the drugs employed the author obtains his best results with nitrate of silver. The prescription commonly employed is:

Argent. Nitratis	10 grn.
Aluminii Chloridi.....	1½ dr.
Ferri Redact.....	1 dr.
M.—Ft. pil. No. XL.	

This is employed continuously for three weeks, and then is omitted for about two weeks, while one of the hypophosphite solutions is given. After this the former treatment is resumed. The aluminum has some action upon the pains.

The pains are best treated by rest, suspension two or three times a week for from one-half minute to four or five minutes at a time, and by massage. Phenacetin stands at the head of the list of beneficial drugs.

The gastric crises should always be met with full doses of morphia, hypodermatically.

The insomnia of tabes may often be relieved by regular nightly use of the catheter. When drugs are required the bromides yield the best results.

The medicinal treatment, while necessary, the author regards simply as an adjunct to the hygienic measures and the employment of hydrotherapy.

Dr. Pope has obtained excellent results from hydrotherapy and employs it in various forms and in all cases.

The author concludes by stating that the

ataxic need not necessarily give up business, but that he must turn the bulk of it, the detail involving worry and anxiety, over to the partner or other interested parties, and must rest quietly in a sanitarium or at home for periods of three or four weeks at small intervals. U.

Micro-organisms Found in Ozena

De Simone (*Arch. Ital. di Laring.*, Jan., 1898) found the following micro-organisms constantly in ozena-discharges: (1) *Bacillus mucosus*; (2) *Bacillus pseudo-diphtheritic*; (3) Frankel's *Diplococcus lanceolatus*; (4) *Staphylococcus pyogenes aureus* and *albus*.

In some cases he also found the following: (1) Friedlander's pneumo-bacillus, and (2) the *Bacillus typhus-similis*.

Only two of these micro-organisms (Frankel's diplococcus and Friedlander's pneumo-bacillus) have produced pathogenic manifestations in guinea-pigs submitted to inoculation.

Inoculation of the human nasal mucosa was followed by profuse secretion, swelling, and slight redness, all of these disappearing after a few days.

As to the etiology of ozena, the writer believes that there must be an individual predisposition to it, to which micro-organisms act as a contributing cause. G.

Syphilis of the Lungs and Mediastinum

Dr. Dinkler reports an interesting case of syphilis of the lungs and mediastinum in a woman (*Münchener med. Woch.*, No. 47, 1897). The patient suffered with a severe cough, expectoration, hemoptysis, night-sweats, and loss of flesh, and the author naturally diagnosed it at first as pulmonary tuberculosis. The patient afterward confessed a syphilitic infection, and after being subjected to a course of treatment with ungu. hydrargyri recovered completely. R.

Pupillary Athetosis, or Hippus

M. C. Fromaget's observations in *Jour. de Méd. de Bordeaux* on a case of so-called hippus are described in *Sem. méd.* (No. 4, p. 26, Jan. 22, 1898). He observed rhythmic alternation of myosis and mydriasis in a woman of 38 years with divergent strabismus and ptosis of left eye, congenital and due to paralysis of third nerve of that side. The lesion was evidently central, and was not due to syphilis nor hysteria, the woman having enjoyed good health.

Wishing to study the light-reflex of the paralyzed eye, he found, on raising the drooping lid, that the pupil dilated instead of contracting, and remained dilated a few seconds before slowly contracting. The

contraction remained but a few seconds before dilatation again set in, and continued slowly to the point of full mydriasis. This alternation continued.

The author explains it as due to a faint central excitation of the sphincter iridis recurring in the state of mydriasis from the paresis of the iris, but failing at intervals because of the weakness of the excitation. These slow rhythmic pupillary contractions in a muscle incompletely paralyzed resemble chorea or post-hemiplegic athetosis, and should be called, not hippus (a constant movement), but pupillary chorea or athetosis.

H.

Death Due to Lumbricoid Worm in the Trachea

Bul. méd. (Feb. 6, 1898, p. 126) credits *Rif. méd.*, Vol. I, p. 124, 1898, with the report of the following case by M. Moscucci (Sienne). A woman came to the hospital with violent attacks of vomiting and smothering followed by convulsive seizures. An interne examined her throat during one of these attacks and found there a long worm, which he withdrew. After amelioration santonin was given, but other attacks came on which caused death.

At the autopsy all organs were found normal except the left lung and bronchus. The latter was obstructed by a very large ascarus, still living.

H.

The Influence of Bathing on the Umbilicus and on the Body-weight of the New-born

Should the new-born be bathed? is a question discussed of late in the German medical journals. Dr. Czervinka, of the University of Gratz (*Wiener klin. Woch.*, Vol. XI, p. 265), has made observations on 400 children, of which 200 were bathed and 200 were not bathed, and answers the question in the affirmative. It is true that as far as the umbilicus is concerned, the observations seem rather to favor the non-bathing; by the seventh day the cord had fallen off in 94 per cent. of the non-bathed children, and in 80 per cent. of the bathed ones; but the average increase in weight was distinctly greater in those children that were bathed.

R.

The Treatment of Delayed Resolution in Pneumonia

In 1891 Fochier, noting that local supuration in puerperal fever was often followed by improvement, suggested that artificially induced abscesses might prove beneficial in cases of puerperal sepsis. He employed for this purpose injections of turpentine. He also suggested the same treat-

ment in pneumonia, and, following that suggestion, Lepin (*Sem. méd.*, Feb. 27, 1892) practised it in a case of pneumonia on the twelfth day, when the patient was in a desperate condition. Recovery followed, and was apparently largely the result of the treatment. Subsequently successful cases were reported by Dieulafoy, Bard, and others.

Having a case under treatment where there was not the slightest sign of resolution during a full month, Dr. Alfred Stengel (*Therap. Gaz.*, Vol. XXII, p. 78) decided to try this treatment. He injected half a drachm of turpentine into the subcutaneous tissue of the right side of the chest (anterior axillary line about the eighth rib). In about six days an abscess formed, which evacuated about 8 oz. of creamy aseptic pus. Immediately after this the dulness diminished, moist râles became audible, and the breathing became less bronchial. In a few days the lung had cleared entirely, and the patient soon recovered completely. The author reports four other cases of delayed resolution, in which the treatment consisted of systematic breathing exercises, counter-irritation, and in the administration of tonics and stimulants. The author makes the following deductions:

1. In cases of slight tendency to delay of resolution manifested by moderate dulness and persistent broncho-vesicular breathing, systematic breathing exercises are of the greatest importance.

2. When considerable dulness persists, active counter-irritation should be practised and tonics and stimulants administered.

3. The production of aseptic abscesses may be useful. The cases in which this has been practiced are too few to warrant absolute conclusions, and the treatment is too painful for general application.

R.

A Case of Bilateral Zoster

While the literature referring to bilateral or double herpes zoster is not, strictly speaking, extremely limited, the condition may be properly spoken of as rare.

Dr. J. Abbott Cantrell describes, in the *Philadelphia Polyclinic* (Vol. VII, No. 11), a case seen by him recently at the Philadelphia Hospital.

These cases of double zoster present the characteristic symptoms seen in the ordinary unilateral form, and the point of interest in this reported case is merely that, the classical case affecting only one side, it aids to remove doubt concerning the diagnosis in these rare instances in which the typical symptoms appear on both sides. The prognosis and treatment are the same as in the ordinary form.

U.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

Antiseptic Treatment of Burns

Dr. M. B. Werner (*Inter. Med. Mag.*, Vol. II, No. 3, 1898) gives the following simple treatment, for which he claims excellent results:

1. Place the burned member or surface into a carbolyzed bath of from 2 to 5 per cent., depending on the age of the patient and the extent of the injured surface. A three-fold effect is gained by this, i. e., antiseptis, asepsis, anesthesia.

2. Remove all the acid solution by a second bath in the physiologic saline solution.

3. Dust the entire surface with a powder containing acetanilid (1 part), compound zinc stearate (5 parts).

4. Cover the surface with narrow strips of Lister's green protective, or, if economy must be studied, thin gutta-percha tissues can be used instead.

5. Place wet sublimate gauze, ten to twenty thicknesses, over and around the surface, followed by ordinary bandaging.

The subsequent dressings differ only in one or two points from the first, as stated above. The carbolyzed bath is replaced by one of either the saline solution, or a weak solution of mercury bichloride, followed by a spray of hydrogen dioxid, which will aid in removing all the pus and loose dead tissue. After this, the surface is dusted with the powder and protective strips of gauze and bandages are applied. These dressings are changed as often as needed, the extent and depth of the burn making its own rule.

G.

A Case of Communication of the Aorta with the Pulmonary Artery

Dr. M. Potain has observed the following interesting case in the Charité, Paris (*La Méd. mod.*, Vol. IX, No. 29, p. 260): A thin, emaciated woman entered the hospital, complaining of great weakness and oppression in the chest. On examination, the lungs were found to be normal, but in the cardiac area abnormal sounds of great intensity were heard. It was a persistent double murmur, at once systolic and diastolic, with its maximum intensity at the base and propagated toward the back. The left ventricle being perfectly normal, and the characteristic murmurs being absent, the hypothesis of either aortic insufficiency or aortic stenosis had to be rejected. Equally untenable was the hypothesis of insufficiency of the pulmonary artery, as the right ventricle was

normal, and as the intensity, position, constancy, and direction of the murmur were against such a lesion. Potency of the ductus Botalli? This condition does not produce murmurs. A provisional diagnosis of communication between the aorta and the pulmonary artery was made. The woman became very ill. She had high temperature, dyspnea, numerous capillary embolisms with sloughing, symptoms of ulcerative endocarditis. Finally she succumbed. The autopsy established the correctness of the provisional diagnosis. The aorta and the pulmonary artery were as if glued together, and communicated with one another by a large aperture. The aorta was slightly stenosed. The right ventricle showed an ulcerative, vegetative endocarditis. The left ventricle was healthy. The findings of the autopsy also easily explain the occurrence of the multiple emboli. While it is clear that the emboli could not traverse the pulmonary system, arrive in the left ventricle, and then be thrown into the general circulation, it is perfectly reasonable to assume that they entered the aorta directly from the pulmonary artery through the abnormal canal.

R.

Operation for the Radical Cure of Hernia

Dr. J. B. Eagleson (*Med. Sentinel*, April, 1898) reports a second series of twenty-five operations for the radical cure of hernia. The length of time since the operation in this series varies from two years to six months. The technique of the first thirteen of these cases was the "combined mattress-suture," using kangaroo-tendon for the deep sutures and silkworm-gut for the skin.

In the rest (twelve) of the cases the operation used was the one devised by Dr. Andrews, of Chicago, and known as "The Imbrication or Lap-joint Method." The writer believes this to be one of the most simple, and so far as it has been used, one of the most successful methods yet devised for this operation.

The steps of the operation are very briefly as follows:

After making the usual skin-incision and carefully checking all bleeding points, an incision parallel to Poupart's ligament, about 3 ctm. above it, is carried from near the pubis to a point a little above the internal ring, through the tendon of the external oblique and parallel to its fibres. The lower end of this incision should terminate near the external ring, but it is not necessary to divide the ring itself. The sac having been dealt with as in the other operation, the canal is cleared of all structures but the spermatic cord, which is gently lifted from its bed and held by a blunt hook

or retractor while the deep sutures are being placed. The lower flap of the aponeurosis of the external oblique is now turned downwards, while the upper flap is firmly stitched to Poupart's ligament, together with as much conjoined tendon and transversalis fascia as can be found, thus forming the posterior wall of the canal. The cord is replaced and the lower lap of the aponeurosis is turned up over it and stitched above. This arrangement forms a lap-joint and gives broad surfaces for union. It also gives three strong layers of aponeurosis in the place formerly occupied by two, two of the three being at the point of greatest strain, namely, behind the cord, and all shortened or narrowed by an amount equal to the extent of the overlapping. Kangaroo-tendon, as prepared by Dr. Marcy, is used for the deep suture and a silkworm-gut continuous buried suture for the skin. G.

Two Cases of Traumatic Tetanus

In the *Münch. med. Woch.*, Vol. XLV, p. 261, Dr. Reinhard reports two cases of traumatic tetanus. One case was treated by the ordinary method (narcotics, etc.), and terminated fatally. The other case, though under much worse surroundings than the first, and of apparently greater severity, was treated with antitetanic serum and recovered. The author had observed three other cases of tetanus, which were treated in the usual manner, and all terminated fatally, and he is therefore inclined to ascribe the saving of his patient's life to the antitetanic serum. He says he will certainly use it at once in any case of tetanus which may present itself. R.

Lack of Interest in Plastic Surgery

J. Price (*Virg. Med. Semi-Monthly*, Vol. II, No. 15; p. 437) says that few men give that study to practical obstetrics which enables them to do good plastic surgery. There must be a careful study of the female perineum to enable the surgeon to restore to normal relations structures injured in childbirth. It is important also to study the normal perineum immediately after labor by inspection and by digital examination, to determine the precise nature and extent of injuries, if any, resulting from the delivery; then can be determined all injuries of pelvic fascia and muscle, even those of the levator ani. The author also justly states that the injudicious and indiscriminate use of the forceps is often responsible for distressing and not easily repaired injuries of the pelvic floor. As the obstetrician's experience broadens, his use of forceps diminishes; so does his infantile mortality. The schools, too, are largely re-

sponsible for the too frequent use and abuse of the forceps. The study of all the injuries should be prosecuted in a large dispensary service, where the injuries are studied carefully, repaired carefully, and watched after the operations. L.

Operation for Spina Bifida

According to Dr. B. F. Curtis (*The Post-Graduate*, Vol. XIII, No. 3, 1898), operations for spina bifida in young infants have two great dangers—hemorrhage and loss of cerebro-spinal fluid—in addition to the common dangers of sepsis and shock. The children are often very young and not in particularly good health, and hence bear operations badly. When hydrocephalus is associated with this condition, operation is to be postponed, if possible. Before the operation the child's body and limbs should be well wrapped with cotton secured by bandages, so as to reduce the loss of the body-heat during the operation as far as possible, and the child then fastened to a board face downwards. When the spina bifida is in the usual lumbo-sacral position the operation should be performed with the feet elevated, so that the spina bifida shall be at the highest portion of the spinal canal, in order that as little cerebro-spinal fluid as possible shall escape. For such cases the writer generally employs straps applied to the lower extremities, as if for the Buck's extension-apparatus used in fracture of the femur, and secure the straps to the upper end of the board, so as to support the child comfortably. When the spina bifida is dorsal, a small pillow should be placed under the chest, allowing the head and the pelvis to be depressed, while the part where the tumor lies is the most elevated part of the spinal canal. The operation should be done rapidly, so as to lessen the shock, and all hemorrhage should be controlled by the application of numerous clamps or by pressure, but without delaying to apply ligatures except to the largest vessels. Hemorrhage is sometimes quite abundant, as the tissues are apt to be vascular, and for that reason all incisions into the sac are to be made near the apex of the tumor, where the vessels are smallest.

The treatment of the pedicle will vary according to its nature with regard to the size of the opening into the spinal canal and passage of nerves from the cord into the sac. When no nerves pass from the cord into the sac, a silk or catgut ligature can be thrown around the neck after transfixion, and it may be ligated. Often the opening into the spinal canal is a long, narrow slit, and the neck of the sac of similar shape, and in such cases the neck must be closed by

sutures. When nerves enter into the sac, if they are not important they can be cut away. In the lower part of the cord, however, important nerves supplying the rectum and bladder or the lower extremities are not infrequently found in the sac, passing into it in a loop like a U in shape and then back into the spinal canal, and the treatment of these nerves needs careful management. Under no circumstances should a nerve of any size be cut away, unless its connection is proved to be unimportant. A test by electricity may be useful.

The opening of the canal must be closed firmly, preferably by silk sutures, in order to prevent leakage of the cerebro-spinal fluid, as the loss of this fluid often proves fatal to the child. The manipulations in closing the neck of the sac sometimes require great delicacy of touch, and resemble the operation of suture of intestine more closely than any other variety of surgical technique, on account of the fine needles and thread employed and the delicate tissue to be sutured; hence experience with intestinal suture is desirable before these operations are undertaken.

S.

The Treatment of Hematuria of Prostatic Origin

M. P. Bozy (*Revista de Anat. Pat. y Clin.*, Feb. 15, 1898) considers that the treatment of hematuria is at times extremely difficult, at others quite simple. In some cases repose is sufficient to stop the bleeding; in others it is necessary to employ hot solutions of antipyrin; and still in others the introduction of a permanent sound is necessary to prevent the bladder from contracting. It is important to remember, however, that if the sound is left open it may not be borne well, and that at times (but rarely) it is necessary to keep it closed, and open it every two or three hours. It is necessary, above all, to have the sound well placed. If it should become dislodged, or if it should come out, the bladder will become distended and bleeding occur *de novo*.

Irrigation should be made through the sound with water at a temperature of 50° C. for fifteen or twenty minutes, the fluid being expelled slowly. The antipyrin-solution employed should be very concentrated; 30 to 40 gme. of a 1 in 10 solution is recommended. If this is not sufficient, then one may make use of tannic acid, using 100 or 120 gme. of the hot solution, 1 or 2 per cent.

In some cases the coagula obstruct the sound at the same time that they distend the bladder. In such cases a few sharp jets of the solution with the syringe are usually

sufficient to break the clots up. If this should prove insufficient, then it is necessary to introduce a large metallic sound having a small curve, which will permit the evacuation of the coagula, either in the manner just indicated or by aspiration with the syringe.

The best way to arrest the hemorrhage is to avoid distension of the bladder, for, as the author pointed out in 1882, the bladder will not bleed, or bleeds but very little, when it is at rest. After the bladder has been freed from all coagula it should be irrigated with warm boiled water, or with a warm solution of boric acid. It must not be supposed that when no coagula come through the sound that the bladder does not contain them. In a case operated upon, after having employed vigorous syringing, the author found a large clot occupying the fundus of the bladder. Then again, even in the cases in which no operation is resorted to, the urine, for a few days after evacuating the bladder, has a peculiar dark, chocolate-like tint, as if colored by old blood. This happens even in the cases where there are no symptoms of a recurring hemorrhage.

It may happen that the hemorrhage does not cease: the patient becomes debilitated or frightened. In such cases we should not hesitate to propose an immediate intervention, which should consist of the hypogastric operation, making a large and free incision, which will permit free inspection of the bladder, and so detect the source of hemorrhage. Usually a free incision, together with subsequent rest, will so act that the hemorrhage stops of itself. It is but rarely that resort must be had to the application of permanent forceps or to the tampon.

Finally, one must not forget the value of constitutional treatment. Instead of tonics or excitants, the author prefers subcutaneous injections of a 7-per-cent. solution of sodium chloride. He recommends large doses—from 250 to 500 gme. twice or more times daily.

G.

• Ether-narcosis in Infancy

Stoos (*Pediatrics*) lost faith in the safety of chloroform-narcosis in children since he saw collapse follow its use in three cases. There are cases of death even reported from this cause. Ether does not irritate the mucous membrane of the trachea and the bronchi in small children more than chloroform. Children suffering even with a slight cough may be etherized without harm. A severe catarrh or disease of the lungs is, of course, a contraindication to its use. It has been claimed that profuse salivation occurred in children, and therefore the period of teething, in which salivation is increased, was

not a suitable time for the administration of ether. Stors has not had this experience. Intense salivation is usually caused by an existing coryza. The children should be placed horizontally, with head slightly raised, and turned to one side to facilitate the flowing off of saliva. The assertion that the beginning of etherization is more difficult, slower and more unpleasant, the stage of excitation greater and longer than in chloroform-narcosis, is without weight if the ether be properly administered; within from two to five minutes relaxation of the muscles is obtained. Nausea and vomiting do not occur more frequently than after chloroform-narcosis. As a preparation to the administration of ether the stomach should be kept empty and a clysmia may be given. Ether-narcosis should be preferred to chloroform on account of its lesser danger. Rehn mentions that in the Frankfort City Hospital ether is now preferred to chloroform in children. L.

Control of Nasal Hemorrhage

Severe post-operative nasal hemorrhage may be controlled, according to Dr. Gleason (*Laryngoscope*, March, 1898), by the following method: A piece of cotton, large enough to fill completely the inferior meatus, is wrapped loosely about a probe, and, dripping it with a fifteen-volume solution of hydrogen peroxide, he introduces it along the floor of the nose until the pharynx is touched. The probe is withdrawn by holding the cotton in position for a few moments with the finger-tip. The cotton is left for at least ten minutes and then withdrawn slowly, with steady, gentle traction exerted at intervals of two to three minutes. In cases of severe nasal hemorrhage the cotton must be left in position for several hours, and the plugging renewed as before. S.

Abscess of the Brain in Infants

Dr. Holt (*Arch. of Ped.*, Vol. XV, No. 3, 1898) arrives at the following conclusions:

1. Abscess of the brain in children under 5 years is rare.
2. The principal causes are otitis and traumatism.
3. It rarely follows acute otitis, but most often neglected cases, and is usually secondary to disease of the petrous bone.
4. In the cases occurring in infancy without evident cause, the source of infection is probably the ears, even though there is no discharge.
5. The development of abscess after injury to the head without fracture of the skull is extremely rare. In nearly all of the traumatic cases, definite cerebral symptoms

show themselves within the first two weeks after the injury. In cases with falls, as remote as several months, there is probably some other cause, such as latent otitis.

6. In a large proportion of the cases only general symptoms are present, and these in very great variety.

7. Focal symptoms may be misleading unless they are constant, and even then may depend upon associated lesions, such as meningitis. Motor symptoms only can be trusted since the sensory symptoms are difficult or impossible to determine in infants or young children.

8. Rapid progress, fever, and a history of injury or otitis generally make a diagnosis from tumor easy. In the slower cases with little or no fever, valuable assistance may be obtained from lumbar puncture.

9. From acute meningitis the diagnosis is more difficult, and in the cases in which there are only terminal symptoms the diagnosis is impossible. In the more protracted cases, the distinctive points with reference to abscess are the slower and the more irregular course and, as a rule, a lower temperature.

10. On account of the great amount of shock attending brain-surgery in very young children, operation should not be urged unless definite localizing symptoms are present, the principal one being hemiplegia. S.

On the Use of the Gigli Wire Saw to Obtain Access to the Brain

Keen (*Phila. Med. Jour.*, Vol. I, No. 1, p. 32) describes the Gigli saw, which consists simply of a bit of steel wire, roughened spirally, about 35 cm. long and about 0.5 mm. or more in diameter, with a loop at each end. An illustration of the saw accompanies the article. The method of using it as by making two or more trephine-openings; then, after separating the dura from the skull, a piece of silk is passed through by means of a probe, and by the silk the saw is drawn under the skull. The handles are then attached, and by moving the saw back and forth just like the old chain saw, the skull is cut through. Keen claims the following advantages in its use: First—He was able at will to bevel the edge in such a way that when the flap was replaced it would not sink into the cavity of the skull and press on the brain, even though along the middle he was obliged to gnaw away the bone at each end. There is practically no loss of bony tissue, the saw being so thin. Second—That after he had completely sawed through three sides of the quadrilateral osteoplastic flap which was to be

turned down, the skull being very thick, by passing the saw under the inner surface through the two openings, he was able at the base to saw half through the thickness of the skull from the inside and then break the outer table with but little exertion and quite a regular fracture. Third—The saws avoid the jarring of the skull caused by the hammer when the chisel is used; this, however, is a theoretical advantage, the author having never seen any case of injury from concussion of the hammer. L.

Urethro-rectal Fistula

The treatment of urethro-rectal fistula has been as various as it has been unsuccessful. Few authors indeed have had the temerity to advise any method as sure, the most being content with suggesting palliative remedies and possible surgical procedures with which they have had no experience, and in which they have little confidence. Dr. James P. Tuttle (*Mathews' Quart. Jour.*, April, 1898) believes, however, that it is always the urethral side which gives way first and infects the rest of the wound. He reasoned that if all possibility of the retention of urine in the urethra and its subsequent leakage could be prevented, the question of curing these fistulæ would be solved. Acting on this theory the author operated upon a case in which the fistula opened into the rectum about half an inch above the external sphincter, and was large enough to admit easily the end of the writer's index-finger. The floor of the urethra was thus absent to a considerable extent, and required to be rebuilt. There was considerable though not excessive cicatricial connective-tissue deposit about the opening and a stricture of the membranous urethra anterior to the fistulous opening. After several days' preparation and treatment to sterilize the urinary and intestinal secretion, the author operated as follows: The sphincter was thoroughly incised and all the cicatricial tissue cut away with scissors, thus freshening the edges of the fistula at both ends. The intestinal wall was then dissected from its anterior attachments up to a point three-fourths of an inch above the fistula and half an inch to each side. The stricture of the urethra was then operated on by perineal section, the incision being carried backward into the fistulous opening. A flap was then dissected from the soft tissue at either side of the urethra large enough to replace that portion of the floor which had been destroyed. These were sewed together with catgut sutures over a full-sized sound and introduced through the meatus in order that the caliber of the canal might be accurately re-estab-

lished and no pocket left. The fistula being thus closed, the sound was withdrawn and the fresh perineal wound and anterior incision in the urethra left unsutured. The edges of the intestine were then sewed together with chromicized catgut, and the rectum packed with iodoform gauze, a drainage-tube having been introduced for the escape of gas. A soft catheter, No. 12 F, was introduced into the bladder through the meatus and fastened there. The perineal incision was loosely packed with absorbent gauze and dressed with an ordinary T-bandage. As the catheter seemed to cause no inconvenience, it was left for eighteen days, the bladder and perineal wound being irrigated daily with Theirsch's solution. Convalescence was uneventful, the perineal wound healing in about six weeks, and finally the patient left the hospital perfectly well.

Two other cases have been thus dealt with, and in all the operation has given satisfactory results. G.

Removal of the Crystalline Lens for High Myopia

Dr. Edward Jackson (*Inter. Med. Jour.*, Vol. VII, No. 3, 1898) reviews the above subject, and says that the majority of operators who have written on the subject prefer the plan advocated by Fukala of doing a preliminary discission, making free crucial incisions in the lens, and then, in a few days, extracting the resulting swollen opaque mass. The writer, however, recommends the following method: At the preliminary needling a small opening should be made in the anterior capsule. As much disturbance of the lens, particularly of the nucleus, is to be caused as possible without increasing the capsular opening. If, after this, the reaction is but slight, the eye may be allowed to wait until the lens has become quite opaque, when it is to be extracted through a comparatively short linear incision of the cornea. In the case of a man aged 24 this was easily accomplished through the incision made by a medium-sized keratome.

If, however, in spite of the small opening in the capsule, decided reaction occurs and seems likely to increase in severity, it will be better to promptly extract as much as possible of the clear lens. Ordinarily the removal of the whole lens cannot thus be accomplished. But the nucleus and a considerable portion of the cortex can be removed; and if, by washing with the Lippincott syringe, the anterior chamber is left free of lens-matter, the pain and hyperemia of the eye will rapidly subside. The cortex that remains becomes opaque, and will ulti-

mately be absorbed, or a clear pupil may be obtained by a subsequent needle-operation.

The older the patient and the larger the lens, the smaller should be the first opening of the capsule and the longer the time that may be allowed to effect the opacity of the lens and its complete removal.

The author summarizes as follows:

Removal of the clear crystalline lens is to be considered only in cases of myopia in which the correcting lenses, necessarily very strong, cannot be comfortably worn.

It may be expected to correct about 18 D. of myopia, although the higher the myopia the greater the probable effect of the operation.

It fully successful it will increase the size of the retinal images and the acuteness of the vision more than 50 per cent.

It should be effected by beginning with discission through a small opening in the capsule, followed, except in very young patients, by extraction when the lens becomes opaque, or sooner if the reaction be severe.

G.

Shock and Its Pathology

The pathology of shock is receiving new light from the investigations of the cytologist in the field of the nerve-cell. Carlo Parascandolo, in the *Arch. de Phys. norm. et path.*, Vol. XXX, 1898, p. 138, using the methods of Marchi and Nissl, has been able to demonstrate in the nerve-cells of the brain, cerebellum, medulla, and cord of guinea-pigs, weighing from 500 to 600 gme., a number of changes following severe blows over the abdominal region and resulting in the symptom-complex of shock, ending in death.

The changes found by the Golgi method were of comparatively small importance. They consisted mainly in deformities of the cell-body not advancing to the grade of actual atrophy. In many cases there was fragmentation of the dendritic branches. In the myeline of the nerve-fibers there were simple marginal degenerations in the cord and in some of the nerve-fibers.

The Nissl method showed a variety of cytological changes. These consisted, for the most part, of mild grades of peripheral chromatolysis, indicating a slight degree of cell-degeneration. In a number of cases the degeneration was marked, and irregular masses of chromophyllic substance were found disposed in bizarre and unequal shapes about the nucleus. Nucleolation of the dendritic ramifications was seen, and there were also found minute changes in the cyto-reticulum of the cytoplasm and nucleoplasm. In some cases the reticulum was swollen and degenerated, thus in-

dicating a phase of nerve-cell degeneration found after a number of the metallic and neurotic poisons.

In a number of instances there were also nuclear changes. These were in the nature of vesicular swellings going on to complete discoloration.

J.

Implantation of a Glass Ball for Support of an Artificial Eye

L. Webster Fox, in the *Jour. of the Am. Med. Ass.*, Jan. 8, 1898, gives results of his experience in implanting a glass or silver ball in those cases where the eyeball had been enucleated at an earlier period. The advantages are in avoiding the enophthalmos, the fixed eyeball stare, the excessive muco-purulent discharge.

Adams Frost, of London, succeeded only once in seven cases in which he inserted a glass ball in fresh enucleations in which he united by suture opposing tendons. The author, adopting Lang's improvement on this method by placing the artificial globe in Tenon's capsule, has been very successful in seventeen cases. In five of these he had to operate a second time and in two a third time, the ball having been expelled.

He makes a transverse incision, dissects up under the two flaps enough tissue to make a pouch, and into this, when prepared, places his glass or silver ball. The bleeding he stops by pressing the cavity full of antiseptic gauze once or twice. It is necessary to avoid having the ball so large as to cause considerable pressure on tissues over the globe and consequent thinning of the conjunctiva.

In the same article he devotes considerable space to Mule's operation and commends it as having in eighty-two cases been followed by no serious results, such as sympathetic irritation or meningitis. He records eight cases in which he had not healing by first intention and in which the ball was expelled.

H.

Treatment of Inguinal Hernia in Children

The *Jour. de Clin. et de Thér. inf.* (March 17, 1898) takes from *Sem. méd.* Broca's position on treatment of infantile inguinal hernia. He maintains that continuous bandaging with a double spring bandage worn night and day for several years will be efficient, but that it entails endless care to make it so. On the other hand, operation promises immediate and radical cure without after-resort to bandaging. Danger of diarrhea and pneumonia from the operation, as some authors object, is found to be almost nil by Broca in children

past 2 years, having never met them in 900 cases. In 150 children under 2 years operated on for hernia he found them in but three. In 1000 cases of non-strangulated hernia operated on at all ages he found but one case of peritonitis, resulting in a child of 4 years. The danger at any age is from sepsis, for which the surgeon is to blame. It is wrong to accuse the patient of his own death because of his being too young for operation, too old, or too diseased.

Let surgeons admit and avoid their own mistakes, and nurslings, children, and old men operated on for non-strangulated hernia will be equally safe from peritonitis. The operation is not dangerous, neither is it lacking in efficacy. Of all his cases, all dismissed at the end of three weeks in bed, only 1 per cent. of relapses occurs, though many have whooping-cough, and all are encouraged to engage in their ordinary sports. Even this percentage of recurrence, he says, is too much, for he has found in three such cases the rupture took place at the upper angle of the incision, and a second operation made the cure radical—proof that the first operation had not proceeded far enough upwards in dissecting the sac and suturing the walls neatly into the upper angle of the aponeurotic incision. H.

Hemorrhoids

Of all the operative procedures which have been advocated in the treatment of the above affection, Dr. Wm. M. Beach (*Mathews' Quart. Jour.*, April, 1898) prefers the ligature, and recommends it without reservation in all cases. If properly done, very little pain follows, thus comparing favorably with the cautery. The technique is simple and the necessary instruments few and inexpensive.

The patient is so prepared that the rectum is clean and free from fecal matter, which is of the highest import in asepsis. As in all other operations of the rectum, the first step is to thoroughly divulse the sphincters to allow the internal piles to protrude, which should always be disposed of before the external; moreover, divulsion overcomes any tendency to spasm of the sphincters, factors conducive to constipation. Each tumor is seized with a vulsellum near the base and drawn down. An incision is made through the mucosa, to encircle the growth, cutting deeper on the lower side. It is then transfixed with braided silk ligature and each half strangulated; now cut off the pile close to the ligature, leaving the smallest amount of tissue to slough. The ligature will not slip, and it only contains in its circuit the blood-vessels, thereby pre-

cluding pain. The incision in external piles should be limited to the skin-portion only, that is, from the mucosa on one side to that of the other, thus precluding the formation of a fissure or contraction. All skin-tags should be removed, since they swell and become tender on the slightest provocation.

When the anal orifice throughout its circumference presents a uniform engorgement and flabby skin, a safe practice is to tie them off by sections, including a goodly portion of the skin. In such a case Dr. B. incises around the whole section. The smallest hemorrhoids should be disposed of first, so that they may not be overlooked, for if any remain the cure will not be complete. G.

Malignant Lymphoma (Hodgkin's Disease) in a Boy Five Years Old

This case came under the care of Dr. Fischer, *Jahrb. f. Kinderheilk.* (Vol. XLIV, H. 3-4). He had an attack of whooping-cough when 1 year old, and since then was suffering from dyspnea. Four months before his death swellings appeared on both sides of the throat, petechiæ developed in the skin, and the urine showed red blood-corpuscles. The child died of suffocation, notwithstanding the previous performance of tracheotomy.

At the autopsy the lymphatic glands were found affected, the tonsils enlarged, and numerous lymph-nodes were seen in the mucous membrane of the throat, esophagus, and trachea. The spleen, the Peyer's patches, and solitary follicles were enormously enlarged. The thymus-gland had been transformed into a large hard tumor filling in the entire anterior and middle mediastinal spaces. Upon microscopic examination this tumor was found to be a malignant lymphoma. S.

Hydrocephalus and Congenital Syphilis

Dr. Elener, *Jahrb. f. Kinderheilk.* (Vol. XLIII, H. 4), observed eighteen cases of hydrocephalus. Of these, three presented well-marked symptoms of congenital syphilis, and all of them had an enlargement of the liver and spleen, a symptom which gives rise to the supposition that an attenuated syphilitic virus might be responsible for the hydrocephalus in the remaining fifteen cases. The writer, therefore, believes that hydrocephalus is met with more frequently in syphilitic than in healthy children. Mothers of hydrocephalic children abort more frequently than those who have borne healthy children, an occurrence which tends to confirm the above supposition. S.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

Ascites of Young Women

M. Bonilly, in the *Jour. de Méd. de Paris*, refers to a form of ascites occurring at the commencement of puberty or in the years immediately following, being usually between the ages of 13 and 30, the subjects being as a rule virgins or nulliparæ. This condition was first described by Cruveilhier, who considered it an idiopathic affection, the intraperitoneal effusion being evidently the only lesion present, and not attended by premonitory symptoms. After a variable length of time absorption takes place, with entire disappearance of fluid. Bonilly believes that this variety of ascites may be traced to tuberculosis of the tubes and ovaries involving the peritoneum, and reported cases in the *Sem. Gyn.*, in which there was a local tuberculosis of the adnexa whose extension to the peritoneum was more or less prompt and extensive, according to the intensity and age of the lesion. This was demonstrated by numerous laparotomies. In examining these specimens closely the conclusion will be reached that the tuberculous process involves first the tube; and that the resulting lesions are of longer standing than at any other point. The cavity of the tube is filled with pus or caseous material; its walls are infiltrated, and certain foci of softening are present, the peritubal peritoneum being invaded by tubercular granulations to a somewhat less degree. This process may also involve the ovary, portions of the broad ligament, uterus, and pelvic peritoneum. The presence or the amount of the ascites does not always correspond to the extent of the tubercular involvement, the observations of the author showing that it is the limited phase of the disease that is most characteristic of ascites. In cases of true peritoneal involvement the effusion is often wanting, the intestinal folds becoming agglutinated to each other and to the abdominal walls, the peritoneum, because of the extensive tuberculous infiltration existing, seeming to have lost its capacity for secretion and exudation. The clinical manifestations are quite uniform, possessing no individual characteristics. The abdomen almost insensibly increases in size, the enlargement reaching its limit only after many months. The quantity of fluid seldom attains the dimensions of ordinary ascites, rarely being more than from four to eight liters. The circumference of the abdomen is exaggerated by the greater or less gaseous dis-

sension which prevails; the patient becomes pale and anemic, presenting sometimes edema of the face, with evident impairment of nutrition and emaciation. Amenorrhea is usually present. The important diagnostic points in favor of tubercular disease of the adnexa are the age of the subject, the impairment of the general health, the amenorrhea, and the history of occasional recurring pains, confined to the lower portion of the pelvis, preceding or accompanying the development of the ascites. A diagnosis of diseased adnexa having been made, operative procedure is strongly advised. L.

Cancer of the Breast

Dr. Rodma advises operation in all kinds of mammary growth (*Charlotte Med. Jour.*). The statistics for the year of six American surgeons (Keen, Bull, Dennis, Weir, Halsted, and Powers) show a mortality of less than 1 per cent.—six deaths in 656 operations. He concludes with the following summary:

1. All mammary growths should be removed at once, for innocent tumors, carried for a long time, become a menace.
2. The complete operation should always be done in cases of malignant growths.
3. In nearly every case it is simply impossible to detect enlarged glands in the axilla before it is opened. Keen says he cannot do so once in ten times.
4. The mortality should be, with average operators, about 3 per cent.
5. A radical operation promises from 25 to 50 per cent. of permanent cures, according to the time when the patients apply.
6. When in doubt operate; never wait for symptoms. R.

The Management of Solid Tumors of the Ovaries during Pregnancy

William E. Swan (*Johns Hopkins Hosp. Bull.*, Baltimore, 1898, IX, 56) concludes an article on the above subject with the following deductions, made after a careful search through the literature:

1. Solid neoplasms of the ovary, complicating pregnancy, are exceedingly rare.
2. The diagnosis of this rare combination of a physiological and pathological process may be very difficult. The physical examination with the signs of pregnancy, and those which belong more particularly to solid ovarian growths, will generally enable us to make at least a probable diagnosis and one sufficient to warrant an exploratory section.
3. The prognosis in cases of solid growths of the ovary complicating pregnancy is much worse, both for the mother and child, than in those of cystic neoplasms of these

organs. This is to be explained by the fact that the former are usually smaller, and remain in the true pelvis and obstruct the parturient canal; while the latter, owing to their bulk and consistence, rise above the pelvis, and the dystocia, if produced at all, is of a less serious nature. Abdominal section and extirpation of solid tumors during the early months of pregnancy produce equally good results, so far as the life of the fetus is concerned, as in the case of cysts; the ultimate result in the case of the mother depending, of course, on the malignant or benign nature of the growth.

4. The general rule should be to operate on all cases between the second and fourth months of gravidity. It would be hard to find a stronger argument in favor of the elective operation for extirpation of these ovarian neoplasms than is furnished by a comparison of the statistics of the best authorities.

5. The compulsory operation during the latter half of gestation, during labor, or the puerperium will rarely be required. T.

Puerperal Tetanus

In the literature of puerperal tetanus the presence of Nicolaier's bacillus has been reported but three times, by Chantemesse, by Heise, and by Stern. The present author, Dr. Rubeska (*Archiv. f. Gynäk.*, Vol. LIV, No. 1), has observed six cases of this disease. In all of the cases there was operative interference with the labor, and infection probably resulted through wounds made at the time of the operation. Chill, fever, and fetid lochia have all been present. The symptoms usually came on in from six to nineteen days after the delivery, and the results were uniformly fatal in from two to three days.

The author has collected together all of the reported cases, twenty-one in number, and shows that in one case only did recovery take place. J.

Calcareous Degeneration in the Uterus

J. N. Cohen (*Med. World*, Vol. XV, No. 12, p. 495) reports a rare case of the foregoing, the patient being 57 years of age and the mother of eleven children. For nine years past she had been flooding at least twenty days in each month, with constant pain in the lower abdomen, which has been intense for the past two years. When seen by the writer some months ago she could not lie in a recumbent position and breathing was difficult, vomiting being also very frequent. Upon examination a large mass was detected in the pelvis, intimately associated with the uterus; it was impossible also to pass a sound in the uterus. The lat-

ter organ was much enlarged but freely movable. Both ovaries were enlarged, the left more so. A complete hysterectomy was subsequently performed, the patient living but twenty-four hours thereafter. Examination of the specimen removed showed that the uterus had undergone a calcareous degeneration; a large calculus was found in the body of the uterus, accompanied by a number of smaller ones, many being like grains of sand; the interior of the uterus felt sandy, the latter being so numerous. Several cysts were connected with each other, being part of the uterus, each cyst containing from one to ten calculi. A calculus about two inches in length was also found in the left ovary. A fibromyoma about four inches long, not cystic, was also a part of the uterus. L.

Uretero-vaginal and Uretero-abdominal Fistulæ

Dr. A. H. Ferguson, in the *Amer. Jour. of Med. Science* (Vol. XXX, No. 15, p. 863), collected sixty-five cases of the above disease, and observed two himself, making sixty-seven cases in all. Of this number sixty were uretero-vaginal, four uretero-uterine, and three uretero-abdominal. This does not include fistulæ from the kidneys, nor the uretero-lumbar and uretero-inginal varieties. No cognizance was taken by the author of the various primary operations performed on patients' accidentally injured ureters while operating upon the pelvic organs. The ages of the patients varied from 19 to 64 years, excluding those persons having the congenital forms.

After dwelling upon the etiology, some of the operations, and results, the author concludes:

1. The left ureter is more frequently the seat of trouble than the right.

2. The most frequent variety is the uretero-vaginal, and the rarest is the uretero-abdominal.

3. The most common cause is difficult labor, and forceps-delivery is a prominent etiologic factor.

4. Of all the operations performed in the pelvis, vaginal hysterectomy is the most frequent cause of ureteral fistula.

5. Other conditions being favorable, all cases of ureteral fistula are curable by operation: (a) In all cases of uretero-vaginal fistulæ the direct method of operating should be selected, and no particular operator's method is applicable to all cases. When the ureteral opening is situated close to the bladder, Schede's operation is the most surgical, and is applicable to the greater number of cases; when situated far away from the bladder, a plastic operation

may be tried before a graver and more mutilating procedure is thought of. Intra-peritoneal operations are suitable for abdominal fistulæ.

6. For the cure of uretero-vaginal fistula, hysterectomy, nephrectomy, and colpocleisis are, in the author's opinion, entirely unjustifiable procedures. When septic infection of the kidney occurs it may be necessary to open or remove it. It bespeaks lack of surgical ability to remove a kidney, a uterus, or close a vagina in these cases of simple fistulæ.

7. Another procedure which the writer thinks uncalled for is transplanting of the cervix uteri into the bladder for the treatment of uretero-uterine fistula, for it causes sterility, and the menstrual flow is abnormally directed; and, besides, a disturbed bladder might cause a backward flow of urine into the uterus, Fallopian tubes, or even peritoneal cavity, depending upon the condition of the organs.

8. Directing the urine into the bowel is only justified when any other operation cannot be performed. While uretero-enterostomy has been successfully performed, it has but little to recommend it on general principles. S.

Belladonna in Sterility

Dr. Jones, of Edinburgh (*Columb. Med. Jour.*, Vol. XX, No. 7, 1898), states that belladonna is followed by more or less benefit in every disease to which the female sexual organs are liable; and in married women who, though apparently enjoying the best of health and never suffering from any irregularity of the sexual organs, are yet sterile, the exhibition of belladonna internally for some weeks is so frequently followed by pregnancy as to preclude considering the occurrence as a mere coincidence. Though advancing no theory in regard to the matter, the author has noticed that during the exhibition of the drug the external genitals become more relaxed, and the os and the cervix more pliable and softened. S.

Erotic Hallucinations after the Menopause

A woman of 55 applied to Dr. Charpentier (*Annales d'Hygiène publique et de Méd. lég.*, March, 1898), telling him that, though she was after the climacteric, she feared she was pregnant. She said she had a connection with a man, and since then she had unmistakable symptoms of pregnancy. She was so convinced of it that she confessed her sin to her son. The doctor examined her and persuaded her that there was nothing the matter with her, and later he found

out that the connection she spoke of was also a myth. But in a few months she returned to him with the same fear. He knew another old lady of 65 who had such strong erotic desires that she had to seclude herself completely for fear of yielding to her passion. She told the doctor that while her husband was alive she was, on the contrary, of a very cold temperament. Dr. Charpentier thinks that erotism is rather rare during or after the menopause, but Dr. Vallan asserts that there is no period in woman's life in which erotic desires and hallucinations are more frequent. R.

Cysticercus Cellulosæ in the Milk

Dr. Gundellach reports, in the *Zeitsch. f. Fleisch- u. Milch-hygiene*, Vol. VII, p. 119, the finding of seven cysticercæ in the milk of a hog. This is the only case thus far reported of the finding of the parasite in the milk. J.

Pain Due to Peritoneal Adhesions

Nove-Jossereaud and Goinard (*Lyons Méd.*) relates three cases in young women on whom operations on the internal genitals were succeeded by pain which continued until a second abdominal operation was performed, and division of the peritoneal adhesions was followed by the relief of pain. The authors give a general account of peritoneal adhesions that cause pain, usually due to inflammation of one of the abdominal viscera. They may be set up by laparotomy, but it does not appear probable that contusion of the abdomen, apart from the inflammation, has, as Reidel has suggested, set up intraperitoneal adhesions. In addition to giving rise to acute and chronic intestinal obstruction, adhesions may cause much pain. The character of the pain is variable; it may be fixed in position and continuous, and not preserve any relation to intestinal movements, or it may be intermittent, resembling colic and preceding defecation, after which physiological act it is relieved for a time. Adhesions may also become more painful during menstruation. By interference with the intestines they may produce constipation, and when attached to the bladder they may give rise to cystitis and dysuria. With regard to operative interference, the diagnosis being difficult, the adhesions are sometimes only discovered on opening the abdomen. Against the objection that operation itself is likely to give rise to fresh adhesions, it is suggested that after operation the intestines should be kept in active peristalsis by purgatives and enemata. In pelvic adhesions the Trendelenburg position will be found useful. L.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Calcium Chloride in Scurvy

J. Christian Simpson reports (*Med. Press*, No. 3074, p. 351) a case of severe scurvy in a girl of 7 years of age, in whom 5-grn. doses of calcium chloride given every four hours led to a speedy cure. Milk and lime-water were given by the mouth when the patient desired anything to drink, while nutrient injections were employed because swallowing was very painful. F.

Tincture Benzoin in Scabies

Dr. Vladimir Holstein states (*Rev. gén. de Pharm. et d'Hyg. prat.*, Vol. I, p. 5) that he has used tincture of benzoin with excellent effect in two cases of itch. The itching ceased after the first application of the tincture, and the eruption began to decline. Two days after beginning treatment the patients took a bath, cured. The effects are ascribed partly to the alcohol, and partly to the benzoin, the penetration of the latter into the crevices being also facilitated by the alcohol. F.

Methylene-blue in Malarial Fever

Dr. Jean P. Cardamatis reports (*Therap. Beilage d. Deut. med. Woch.*, Vol. XXIV, p. 9) having used methylene-blue in 275 cases of malarial fever with wonderful results, and further states that its therapeutic value in this ailment far exceeds that of quinine. The methylene-blue was ordinarily given in quantities of from 1 to 1.2 gme. (15 to 18 grn. per day), in four doses, each at interval of two hours, with infusion or powder of nutmeg. The remedy was given ten hours before the expected attack in cases of intermittent fever; in remittent or continuous fever it was given eight hours before a severe seizure was expected. The administration of the methylene-blue, together with quinine, was also found to yield remarkably good results. Of the 275 cases treated, however, all but thirty were treated with methylene-blue alone, and the author believes that, from his experience with it, plasmodia in the organism can be destroyed with certainty, and malarial fever be cured without fear of any relapses.

Methylene-blue, the author further states, exerts a particularly happy effect in cases where the organism has been saturated with quinine, and where the latter no longer has any action. It is also effective in all those conditions in which there exists a decided

sensitiveness to quinine, as in hemoglobinuria, urticaria, rectal hemorrhage, asthmatic attacks, cramps, gastro-intestinal pains, gastralgia, diarrhea, orthopnea, with pains in the cardiac region, pustular and symmetrical eruptions, etc. Among the disadvantages incident to its use may be mentioned the bad impression produced on the patient by the color of the vomit, the coloring of the mouth, tongue, and clothes, and the cystitis that may easily occur. In spite of these drawbacks, however, its use not only brings about a certain cure, but also confers a certain immunity on the patients, as the latter appear to remain unaffected by miasmatic germs even when constantly exposed to them. The value of the remedy in malarial fever is summed up by the author in tables, which show that, in the 275 cases, there was absolute success in 93 per cent., non-success in 7 per cent., and only 15 per cent. of relapses one year after treatment. F.

Coronillin as a Substitute for Digitalis

Coronillin, a glucoside obtained from *Coronilla scorpiodes*, has been frequently recommended as a substitute for digitalis. Daily doses of from 0.4 to 1.5 gme. (6 to 23 grn.) have for effect an increase of diuresis, reduction of the pulse-tension, and dyspnea, with diarrhea and vomiting as frequent by-effects. It is claimed to possess no cumulative action. Dr. H. Guth (*Klin.-therap. Woch.*, Vol. V, p. 158) employed it recently in eight cases of cardiac affections and one case of hepatic cirrhosis, usually in quantities of 0.5 gme. (8 grn.) per day. The above-mentioned phenomena were observed also by him. Moreover, several patients exhibited a certain idiosyncrasy which prevented the remedy being used in the place of digitalis. F.

Value of Cold, Locally Applied, in Acute Pneumonia

Thomas J. Mays reports (*Phila. Polyclin.*, Vol. VII, p. 137) upon the use of the local applications of cold in cases of acute pneumonia, and states that the death-rate, due to the method of treatment, is thereby reduced to a very low figure—3.35 per cent. in 299 cases treated. The cold should be applied by means of ice in bags as early as possible, and kept in contact with the chest until the temperature comes to, or near the normal and remains there. The mere fact of its coming to the normal is not evidence that it is going to remain there. Very often the ice is removed too soon and the temperature goes up as high as it was before, and is more difficult to get down the second than the first time. Besides its influence on the

temperature, cold modifies the pathologic process in the lung, and therefore is best kept in place until the local excitement is subdued. A good indication as to when this point is reached is when the patient becomes chilly, and when the cold begins to feel uncomfortable to him.

No danger of injury following the prolonged use of cold if proper judgment is exercised, need be considered, this being the experience of every one who has used it. Cold tub-baths or general spongings are not as efficacious as the local application of ice to the chest, for, beside the exhaustion, dyspnea, and strain on the heart which a tub-bath entails on a pneumonic patient, it is far inferior to the simple and easy method of applying cold locally in the form of ice. The low temperature tones up and invigorates the nervous system, contracts the dilated and tortuous pulmonary capillaries, gives force and strength to the weakened heart, and acts reflexly on the heat-centers and so reduces fever.

In addition to the local use of ice on the chest, it is important to apply one or two ice-bags to the head; to administer strychnine in large doses, not less than 1-20 of a grn., every four hours, to an adult; to give salines in the form of ammonium acetate and potassium acetate; and in case there is any active rheumatic manifestation, which often exists in a latent condition, to reinforce the action of the salines with the salicylates and colchicum. Morphine should be given to produce quiet and sleep, and quinine for its tonic effects. If a muttering delirium develops in connection with a dry, black, tremulous tongue, we should give tincture of capsicum in liberal doses, from 10 drops to a teaspoonful in water, every hour or two. If urgent dyspnea is present and fails to yield to the constant inhalation of oxygen, one must not fail to perform venesection. It is always needful to support the patient with an abundance of nourishing food like milk, freshly expressed beef-juice, egg-nog, etc.

F.

Orexine Tannate in Children's Practice

In an article on the origin, effects, and treatment of anorexia in children, Dr. Limpert (*Bayer. Aerztl. Correspondenzbl.*, 1898, No. 6) states that, in all the trials made so far, orexine tannate has been found to be invariably certain in its action in this complaint. Children who, ordinarily, could not even be forced to eat, became even ravenously hungry, after taking the remedy, the body-weight also increasing. Particularly good results were obtained in convalescence after infectious diseases, in anemia, in neurasthenia, gastric atony, debility, and at the

beginning of pulmonary tuberculosis. The effects were less marked in chronic gastric affections, advanced tuberculosis, and in constipation. The dose usually given was 0.5 gme. (8 grn.) twice daily for children from 3 to 12 years of age. In those cases where patients could not be made to take the remedy in powder form, or where the disease was accompanied by vomiting, the remedy was given in the form of tablets with chocolate, each containing 0.25 gme. (4 grn.) of orexine tannate. The remedy was given for five consecutive days, then its administration suspended for three days, then again renewed, this procedure being carried out for from four to six weeks. The orexine tannate may be given to adults as well, and in similar doses, whenever proneness to vomiting, or revulsion against everything, particularly when odorous, exists. The author also states that, not only is the remedy useful for checking vomiting, but that it is a specific in every anemic condition, because, by producing normal appetite, it indirectly acts as a blood-maker.

F.

Best Mode of Administering Creosote

Dr. J. Maximowitsch (*Rev. gén. de Pharm. et d'Hyg. prat.*, Vol. I, p. 3) states his conviction that creosote, in order to yield the best results in pulmonary tuberculosis, chronic pulmonary catarrh, and chronic pleurisy, must be exhibited in large doses. He believes it best administered in combination with iodine, alpha-naphthol, and cod-liver oil, or in pill form conjointly with arsenic and iodoform, arsenic, iodoform, and eucalyptol, and arsenic with alpha-naphthol.

F.

Hyoscine and Hyoscyamine as Mydriatics

For the last sixteen years Emmert (*Epit. Brit. Med. Jour.*, No. 1940, p. 39) has found hyoscine to be the most constant and reliable mydriatic we have, and this has been the experience of many others. The hydrobromate is a very stable salt, and has been introduced into both the Swiss and German (under the name scopolamine, which is identical with hyoscine) pharmacopeias. Its advantages over atropine are: (1) It dilates the pupils more quickly; (2) the mydriasis does not last so long, and the paralysis of accommodation lasts about the same time, and this is an advantage for healthy eyes; (3) it cures inflammatory affections of the eye quite as quickly as atropine; (4) even if used for a long time it has no local irritant action (as "atropine conjunctivitis"); (5) it is five times more powerful; (6) used in solutions as strong as 1 in 500 or even 250, any general intoxication is very rare, and even if present quickly passes off and

is not dangerous; a solution of 1 in 1000 is usually sufficient, and never causes poisoning; (7) intraocular tension is not influenced in chronic, though hyoscine is contra-indicated in acute, glaucoma; (8) instead of stimulating the cerebral cortex and quickening the pulse like atropine, it has a paralyzing action on the former and slows the pulse, and hence is much safer in heart-disease. Considering the weaker solutions required, it is practically as cheap to use as atropine. As regards hyoscyamine, its little use as a mydriatic is not due to an uncertain action, but because it has no advantages over atropine. F.

Nitroglycerin as a Hemostatic in Hemoptysis

Dr. Lawrence F. Flick, of Philadelphia, states (*Phila. Med. Jour.*, Vol. I, p. 344) that he has used nitroglycerin in four cases as a hemostatic in hemoptysis, and with excellent results. He believes that, theoretically, it should be a good remedy for hemoptysis, and it was upon theoretical grounds that he was led to use it. In hemoptysis there are two physical laws in operation, namely, application of force and resistance. The action of nitroglycerin is to lessen the resistance, and it is because of this action that it becomes available as a remedy in hemoptysis.

Whilst his experience is too limited to warrant final conclusions about the action of the drug, in the cases in which the author has used it the result has been so uniform and prompt that he feels justified in calling the attention of the profession to it. That the action was due to the nitroglycerin, unless the results were mere coincidences, cannot be doubted, as absolutely no other treatment, not even ice, was used, and the nitroglycerin was given in most instances in water. F.

Treatment of Angina Pectoris

Huguenin highly recommends (*Aerzt. Rundschau*, Vol. VIII, p. 123) amyl nitrite for use during the attack of angina pectoris, in doses of 4 drops to begin with, and increasing to 6 or 8 drops, and inhaled from a handkerchief. If the attack is of long duration the dose is repeated, or glonoin is injected subcutaneously or given per os, dissolved in cherry-laurel water. The effect is apparent in from five to ten minutes. Blistering plasters may also be applied to the breast. The diet should also be very carefully regulated, and should consist principally of the white meat of fowl, eggs, vegetables, milk, mineral waters, and tea. Tobacco and alcoholic liquids must be strictly avoided. The medication should

consist of digitalis, caffeine, and iodine preparations. In fact, potassium iodide should be given for one month, followed by sodium iodide for two months, and given as in the following formulas:

Potassium Iodide, 10 to 20 gme. ($2\frac{1}{2}$ -5 dr.)
Extract Opium.....0.2 gme. (3 grn.)
Distilled Water.....300 gme. (10 fl. oz.)

Dose: Two or three teaspoonfuls daily.

Sodium Iodide...5 to 10 gme. ($1\frac{1}{4}$ -2½ dr.)
Sodium Arsenate.....5 ctg. (¾ grn.)
Distilled Water.....150 gme. (5 fl. oz.)

Dose: Two to three teaspoonfuls daily.

The iodine treatment must be continued for from two to four years. Should the by-effects of the iodine salts be unbearable, Lemoine recommends from 10 to 15 drops of iodine tincture taken in soup or water before meals. The glonoin may be given in doses of 3 drops, three or four times daily, of a 1-per-cent. solution. F.

An Experimental Study of the Toxic Properties of Indol

C. A. Herter (*Med. Rec.*, April 16) read a paper before the New York Pathological Society giving the results of his experiments on the lower animals and in man. It seemed probable that the main factor in the production of indol in the intestine was the coli bacillus. Indol in the intestine was transformed into indoxyl after absorption and subsequently to indoxyl potassium sulphate. The indoxyl of the urine was convertible by oxidation into indican. It was found that intravenous injections of indol exerted marked toxic effects on the nervous system in dogs and rabbits, producing cardiac and respiratory depression, general prostration, marked contraction of the pupils, irregular clonic spasm, and increased reflex excitability, including increase in the activity of the knee-jerks. When fatal doses were injected the cause of death in every instance seemed to be cardiac, rather than respiratory, failure.

In order to determine the effect on the human subject indol was given three healthy men in increasing doses beginning with 0.1 gme. in capsules immediately after meals. The first subject experienced slight frontal headache, and then colic, followed by diarrhea. He received 0.5 gme. of indol. In the second case 1 gme. or more was necessary to produce symptoms. These were extreme insomnia and unnatural mental activity, and toward the last frontal and occipital headache. The frontal headache was cleared up by outdoor exercise.

Clinically, the most important factors in determining individual susceptibility to indol were: (1) The character of the nerv-

ous system; and (2) the ability of the organism to transform indol into less toxic substances. It would seem from the observed effects of indol, taken in conjunction with the study of the clinical conditions in which the indoxyl-reaction was markedly increased, that we were justified in believing that prolonged and excessive indol-absorption was capable of causing frontal headache, abnormal cephalic sensations, and indisposition to mental and physical exercise. If prolonged, the latter might form the basis of a neurasthenic state. While we could not regard indol as an indifferent substance, we could not, on the other hand, regard it as a highly toxic one. Dr. Herter has found the best method of applying the indican-test to be obtained by using a 0.5-per-cent. solution of ferric chloride in concentrated hydrochloric acid, mixing an equal volume of this and the wine and then shaking out with chloroform.

Administration of Large Doses of Guaiacol in Phthisis

A report drawn up by C. Stanford Read, of the North London Hospital for Consumption, and published by Dr. J. Edward Squire (*Lancet*, No. 3893, p. 993), establishes the fact that patients can take pure liquid guaiacol in doses of 1 dr. three times daily not only without toxic effects, but apparently with decided benefit. Creosote has been given in doses of from 160 to 180 min. a day, and guaiacol carbonate in doses of from 45 to 60 grn. three times a day, but Dr. Squire knows no record of guaiacol itself approaching these quantities. The amount of guaiacol in creosote is somewhat indefinite; the carbonate is said to contain about 91.5 per cent. of pure guaiacol. A dram of carbonate would thus be equal to about 55 grains of pure guaiacol. The latter has the advantage of being less expensive. The caustic action of uncombined guaiacol on the mucous membrane and some fear of toxic effects have prevented the prescribing of full doses of this drug, but it was seen that with due care in administration most patients can safely take half a dram, or even one dram, three times a day. The drug was given in capsules containing 5 min. each, or in emulsion with glycerin and tincture of orange-peel, and was always followed by a drink of milk. The doses were taken after meals. It was not attempted to exceed the dose of 60 min., or to give more than 180 min. in the twenty-four hours, but some of the patients have continued taking this amount for several weeks with apparent benefit. One patient who has recently been discharged after taking this quantity for three weeks gained

about twenty-one pounds during the three and a half months that he was in hospital and left in a condition which might well be described as "cured." Short notes of this case will be found at the end of this report. It has been stated that after large doses of guaiacol the urine gives a precipitate with hydrochloric acid. This statement could not be confirmed, for the urine of patients taking large doses of the drug had not given any precipitate with hydrochloric acid in those cases tested. F.

Abortive Treatment of Venereal Buboës by Intraganglionic Injections of Salt-solution

Dr. L. Waelsch states (*Sem. méd.*, Vol. XVIII, p. 74) that he has found that injections of sterilized physiological solutions of sodium chloride exercise the same abortive effect on venereal buboës that mercurial compounds, silver, and other antiseptics produce, and that they may, hence, advantageously replace the latter. The writer injects 1 or 2 c.c. (15 or 30 min.) of the saline solution at the seat of the fluctuating bubo after the pus has been aspirated, and then makes further injections of from 2 to 6 c.c. of the solution in several places deep down into the ganglion, after which the bubo is covered with a compress saturated with an aluminum-acetate solution. The pains usually present at the seat of the bubo disappear the same day—which does not occur with mercurials or silver—so that patients are able to walk about without hindrance. The suppurative process is checked, and the tumor retrocedes rapidly, the use of the bistoury becoming necessary only when the bubo had become open before the saline injection had been made, or when the skin had become very thin. Twenty-five cases were treated by the author with twenty cures effected within about two weeks. F.

Periplocin Subcutaneously in Cardiac Affections

Periplocin, the glucosidal active principle of *Periploca græca*, which has been credited with cardio-tonic properties, has recently been employed by Dr. I. M. Levachov (*Sem. méd.*, Vol. XVIII, p. 71) in the form of subcutaneous injections in cardiovascular affections and in general hyposystole. A solution of 0.01 gme. (1-6 grn.) in 10 c.c. (2 1-2 fl. oz.) of distilled water was employed, and the quantity injected from 0.5 to 1 c.c. (8 to 16 min.), corresponding to 0.0005 to 0.001 gme. (1-130 to 1-65 grn.) of periplocin, the latter being the maximum quantity permissible at one dose. The injections are painful, and though the pain

disappears in about fifteen minutes, it soon returns and persists for one or two hours. At the end of this time no more spontaneous pain is felt, but the part is still sensitive to pressure for about ten hours. The skin is reddened, and becomes slightly tumefied at the point of injection, but neither abscess nor infiltration is ever observed. The writer injected the periplocin every two or three days, sometimes even daily, and found that it slowed the pulse while it increased the energy of the cardiac contractions and provoked abundant diuresis. The diuretic effect was observable after the second or third injection had been made. Periplocin was found to be always well tolerated in doses of 0.5 to 0.6 mg., while doses of 1 mg. provoked nausea and vomiting four or five hours after injection, besides colic and diarrhea. Great care must be also taken to render the periplocin-solutions perfectly sterile before use, and to use only recently prepared ones, as the solutions constitute excellent culture-media.

F.

Mastitis Treated with Ichthyol

According to Dr. H. Naegeli-Akerblom (*Sem. méd.*, Vol. XVIII., p. 2), a very efficacious treatment of non-suppurating mastitis consists in painting the affected region with a mixture of mucilage of acacia with 30 per cent. of ichthyol. The application of this mixture, which dries rapidly and forms an adherent pellicle readily removed by warm water, when made sufficiently early, prevents suppuration, or, at least, considerably diminishes the extent of the mammary abscess.

F.

Iodine in Syphilis

Bouveyron maintains (*Lyon méd.*, 1892, No. 2) that iodine pure deserves more application, in certain severe cases of syphilis, than has hitherto been given to it. To produce a good effect, it must be used with an excipient which does not combine with it, and one which at the same time is a perfect solvent; furthermore, the causticity and astringent taste of the iodine must be corrected and it should be administered half an hour before meals, to avoid combination with articles of food. The author's mixture is as follows:

Iodine 1 gme. (15 grn.)
Potass. Iodide q. s. for solution
Glycerin 10 gme. (2 fl. dr.)
Citric Acid 15 gme. (½ oz.)
Syrup and Distilled Water to make 1000
c.c. (33.8 fl. oz.)

The glycerin and syrup correct the causticity and the citric acid masks the flavor. He commences with ½ oz. of this solution

a day, taken dividedly, half an hour before meals, and increases up to 3 or 4 oz. a day. This represents about ¼ grn. of iodine in each half-ounce.

The author quotes three cases of severe tertiary syphilis treated by him in this way which had resisted mercurial inunction and treatment with iodides up to 90 grn. daily. All the cases recovered rapidly, without any bad effects of iodism.

F.

Copper in Tuberculosis

Dr. Luton, of Reims (*Rev. gén. de Pharm. et d'Hyg. prat.*, Vol. I, p. 14), states that copper acetate or phosphate is an effective means of destroying the tubercles in tuberculosis, or of rendering the system unfavorable to their development. The remedies are employed in the following forms:

Copper Acetate 0.05 gme. (¾ grn.)
Sodium Phosphate 0.5 gme. (8 grn.)
Mixture Acacia 125 gme. (4 fl. oz.)

Dose: Tablespoonful every hour, on an empty stomach.

Copper Acetate 0.01 gme.
Calcium Phosphate 0.5 gme. (8 grn.)

Make into 10 pills. Dose: One or two daily, on an empty stomach.

The remedies may be used hypodermically in the following forms:

Copper Phosphate5 gme. (75 grn.)
Glycerin 30 gme. (6 fl. dr.)
Distilled Water 30 gme. (1 fl. oz.)

Or:

Copper and Ammonia Acetate 1 gme.
(15 grn.)
Distilled Water 100 gme. (3 ½ fl. oz.)

Dose: 1 c.c. of either of the mixtures.

A lotion of 1:1000, an ointment of 3:1000, made with white vaselin or adeps lanæ, and a 1:2000 collyrium, all made with the acetate, are also serviceable. The injections are best made in the retrotrochanteric region, and cause but little pain, and but rarely any ill results. The immediate effect of the injections is like that observed in using Koch's lymph, a general reaction being observable, while the condition in general is improved and the extent of the lesions is limited. Care must be taken, of course, to note any signs of cuprism.

F.

Iodole as an Abortive of Erysipelas

Dr. Lobit, of Biarritz (*Bull. gén. de Therap.*, Vol. CXXXV, p. 540), reports that he has used iodole with excellent results as an abortive in twenty-five cases of facial erysipelas. The remedy was applied dissolved in collodion, and the 10-per-cent. solution painted over the affected part in a thick layer extending a few centimeters beyond the limits of the erysipelas. The results of the application were manifested

immediately and were striking, the redness and induration disappearing and the pain being relieved. The effect of the iodole was, no doubt, due to its microbicidal action, and when early applied the remedy always prevented the spread of the disease, and effected a rapid cure in all cases. It was used also in twenty-five cases of lymphangitis, and with similarly good results.

F.

Phenocoll Hydrochlorate in Whooping-cough

Dr. Martinez Vargas states (*Aerzt. Rundsch.*, Vol. VIII, p. 181) that he has used phenocoll hydrochlorate in forty-two cases of whooping-cough with excellent results. The remedy was given in gum-mixture in doses ranging from 0.07 to 2 gme. (1-8 to 30 grn.) daily, according to the age. The phenocoll hydrochlorate acted very rapidly, being discoverable in the urine twenty minutes after ingestion. Aside from its disagreeable taste, which may, however, be covered by a suitable corrigent, the remedy has no drawbacks, and causes no diarrhea, erythema, or any other disturbance. The effect of the phenocoll hydrochlorate on the number and intensity of the attacks, as well as on the period of the disease, is very marked, and the treatment indirectly avoids the dangers due to complications.

F.

Bismutan

This is a compound of bismuth, resorcin, and tannin, and forms a bright-yellow, odorless, somewhat sweetish powder, insoluble in water. It is prepared by Minder, in Zurich, and is recommended by Dr. Bion (*Centrabl. f. d. ges. Therapie*, Vol. XVI, No. 3, p. 183) as a good remedy in the diarrheas of children. In twenty-four hours the vomiting and diarrhea disappear. The dose for children under two years is 1 to 3 grn. in a mucilaginous medium, given every two hours; for adults 8 to 15 grn. several times a day. No after-effects were noticed.

R.

Serum-treatment of Pneumonia

Pane (*Epit. Brit. Med. Jour.*, No. 1946, p. 63) reports nine cases of pneumonia treated with antipneumonic serum during a recent epidemic of pneumonia in Naples, which was of a grave type. The quantity of serum used varied from 10 to 110 c.c. (2-1-2 to 3-1-2 fl. oz.). Death occurred in one case, but here the treatment was not adopted until the fifth day of the disease, and then the serum was used only in small quantities (10 c.c.). In all the other cases

the effect of serum-treatment was markedly good, inducing rapid improvement of the symptoms. No intolerance nor ill effects were observed. Since there is little hope if the pneumococcus enters the blood, and since this probably does not happen before the third or fourth day, if good results are to be anticipated from the administration of serum, it must evidently be used in the early stages of the disease to be of avail; moreover, at this time a smaller quantity of serum will suffice. As an average dose the author recommends 20 c.c. (5 fl. dr.) per day.

F.

Urea as a Diuretic

Futran, of Kusnezoff's clinic (*Epit. Brit. Med. Jour.*, No. 1946, p. 63), first refers to previous researches into this subject, and especially those of Klemperer. He has used this agent in 5-per-cent. aqueous solution, beginning with 10 gme. (2-1-2 fl. dr.) per day and increasing by 5 gme. daily up to 20, 25, or even 30 gme. in the twenty-four hours. No real ill effects were observed. In one case there was slight diarrhea. To avoid fallacies, milk should not be given while the urea is being administered. Futran has thus treated fourteen patients: two with atrophic hepatic cirrhosis, two with serous pleurisy, two with emphysema and secondary cardiac disease, one with myocarditis, one with interstitial nephritis, and five healthy individuals. He appends tables which show that in no case was there any marked diuresis, and he concludes that urea has a very insignificant diuretic action, and that it is of less value than other diuretics.

F.

Cocaine as a Local Anesthetic in Lupus

Unna recommends (*Aerzt. Rundsch.*, Vol. VIII, p. 220) cocaine hydrochlorate for the local treatment of lupus. The remedy is applied in powder form, with from ten to twenty times its weight of magnesium carbonate, to the eroded or excoriated surfaces, and after the application a layer of moist cotton is applied to the cocaineized surface for ten or fifteen minutes before cauterization or other painful treatment is begun. This method is the most economical, as well as the most effective, every particle of the cocaine being utilized.

In the treatment of pruritus, Unna recommends the pure alkaloid, a 1- or 2-per-cent. ethereal or ethero-spirituuous solution being sprayed or painted upon the affected part, or applied dissolved in collodion. The alkaloid is preferable to its salts in all cases where the horny cutaneous layer is entire or only slightly affected, hence particularly

in all forms of pruritus and paresthesia, as well as in eczema accompanied by excessive itching, in zoster, and in certain forms of lichen planus when used in conjunction with the remedies ordinarily employed in these dermatoses. F.

Alsol

Drs. Athenstaedt and Redeker give this name to a compound which is chemically aluminum aceto-tartrate, and which they recommend as a non-poisonous substitute for potassium chlorate, carbolic acid, and corrosive sublimate, especially when employed for gargles (*Centralbl. f. d. ges. Therapie*, Vol. XVI, No. 3, p. 182). It is used in a 1-2 to 1-per-cent. solution. In the market it appears as a 50-per-cent. solution. It is prepared as follows: Five parts of basic acetate of aluminum are mixed with three parts of tartaric acid and dissolved in a sufficient quantity of water. The solution is then evaporated to dryness, the residue dissolved in a small quantity of water and then precipitated out by the addition of alcohol. This compound alsol is soluble in one part of water and forms a permanent, non-gelatinizing solution. R.

Endermatic Employment of Salicylic Acid

Dr. Sterling-Lodz has employed salicylic acid endermatically for some time in articular rheumatism (*Aerzt. Rundsch.*, Vol. VIII, p. 2181), and in the following form:

Salicylic Acid	15 gme.
Turpentine Oil	15 gme.
Lanolin	15 gme.
Lard	to make 100 gme.

Applied in this form, the remedy is absorbed into the system through the skin. The ointment is rubbed or spread over the affected part, then covered with a thick layer of cotton batting, and the whole finally bandaged with numerous layers of flannel. At the beginning of the treatment the writer usually gives sodium salicylate internally also, but suspends its use as soon as alleviation sets in. By this method of treatment the writer claims that less salicylic acid is required to effect a cure than is ordinarily required, while the stomach is not so deleteriously affected as when the acid is given for some time. F.

Stypticin in Uterine Hemorrhages

Dr. Bakofen reports (*Münch. med. Woch.*, Vol. XLV, p. 419) having used stypticin in forty-five cases of uterine hemorrhage, comprising five cases of virginal metrorrhagia, nine cases of menorrhagia, twelve of metrorrhagia, and four of hemorrhage

following the removal of the adnexa, two of atypical hemorrhage with acute gonorrheal infection of the uterine mucous membrane, eight of endometritis hemorrhagica, two of climacteric hemorrhages, one of bleeding during pregnancy, and one of hemorrhage in myoma. Stypticin was ineffective in ten of these cases, and of doubtful action in four. In all the rest it was effective in checking the hemorrhage. No disagreeable by-effects were observed. The remedy was generally given in the form of pills or tablets, doses of 0.05 gme. (3-4 grn.) being administered four or five times daily. Usually from eight to fifteen doses sufficed. F.

Phesin and Cosaprin in Influenza

Dr. Golinier, of Erfurt, reports (*Aerzt. Rundsch.*, Vol. VIII, p. 241) having used both phesin and cosaprin in a number of cases of influenza, as antipyretics, and with good results. The annoying headaches were entirely relieved, the subjective condition improved, and the obstinate backaches and pains in the loins that so frequently accompany influenza, were greatly relieved. The remedies were found to be particularly useful in those cases where antipyrine is contraindicated on account of the dangerous intoxications incurred by its incautious use, and the collapse that may so readily occur.

In Chronic Rhinitis

In *Centralbl. f. d. ges. Therapie* the following formulæ are given (Vol. XVI, p. 185):

- I. Sodium Sozoiodolate.....1 part
Talcum.....2 parts
S.—Use with an insufflator.
- II. Powdered Camphor..... }
Tannic Acid..... } equal parts
Salicylic Acid..... }

S.—Use with an insufflator.

R.

Mixture for Hysteria, Epilepsy, and Delirium Tremens

Prof. Liebreich recommends the following (*Centralbl. f. d. ges. Therapie*, p. 184):

Monobromated Camphor....	15 to 30 grn.
Olive-oil	5 dr.
Acacia.....	2½ dr.
Oil of Peppermint.....	6 to 8 drops
Sugar.....	4 dr.
Water.....	4 oz.

Make an emulsion. S.—Tablespoonful three or four times a day.

R.

Erratum

On page 386 of the April 25 BULLETIN "thyroid extract" was printed for "tannalbin" in the article entitled "Thyroid Extract in Intestinal Catarrh."

REVIEWS

A Practical Treatise on Sexual Disorders of the Male and Female. By Robert W. Taylor, M. D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. In one handsome octavo volume of 448 pages, with seventy-three illustrations and eight plates in color and monotone. Cloth, \$3 net. Lea Brothers & Co., New York and Philadelphia.

This is, we believe, the first complete practical treatise on sexual disorders of the male and female ever offered by an American author, and very few specialists in genito-urinary and venereal diseases could so thoroughly equipped enter upon the discussion of this long-neglected and abused subject as the author of this book. The volume is divided into thirty-three chapters. Two of them are devoted to the anatomy and physiology of the sexual organs and one to the nature and composition of the seminal fluid. Sexual impotence from various causes is carefully elucidated in eight chapters. Attention is also paid to varicocele, sexual neurasthenia, conjugal onanism, priapism, sexual erethism, and sexual perversion. The chapter on chronic affections of the prostate is very successfully mastered. The treatment of hypertrophy of the prostate is, however, somewhat brief, no mention being made of Bottini's galvano-caustic operation which is claimed to be accompanied by excellent results and entirely devoid of danger. The last chapter treats authoritatively of a peculiar new growth of the vulva, first described by Professor Taylor in 1890. The volume at hand is deserving of the highest of praise, and we take pleasure in recommending it to the specialist as well as general practitioner, trusting that it will help eradicating the vast amount of mysterious thought entertained by charlatans as well as medical men regarding sexual affections. The publishers seem to have taken great pains in presenting this excellent book in a most attractive manner.

"Cataphoresis ;" or Electric Medicamental Diffusion as Applied in Medicine, Surgery, and Dentistry, by William James Morton, M. D., Professor of Diseases of the Mind and Nervous System and Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital. New York: American Technical Book Company, 45 Vesey Street. 1898. Cloth, \$4; half morocco, \$5.

The main title to this volume will sound new and unfamiliar to most of our readers, but the secondary title tells just what it is about. Doctor Morton has here given us the first work ever published treating of this subject. Heretofore all available information was embodied in scattered papers in medical and dental journals. Now we have all that is known upon it brought together in the book before us, for which the author deserves the thanks of the whole medical profession. When we pause to think of the wonderful possibilities that the experiments and results already obtained in this field of investigation mean, we cannot refrain from thinking that it has a vast future before it fraught with great things for medical science. As yet the whole thing is in its infancy, but Dr. Morton shows us that it is a very lusty and very promising infant. When by an electric current cocaine can be carried into the very heart of a tooth, and even through its dentine, so as to destroy all feeling and make it pos-

sible to remove that tooth in an actually painless manner, why may not many other medicaments be introduced into the system in the same manner? When surgeons can anesthetize a member of the body and remove it painlessly by this method of carrying cocaine into the sensitive tissues it is not a great stretch of the imagination to believe that many other articles might be introduced in the same manner to check inflammation, subdue pain, and even treat constitutional affections. Just what has been accomplished in this line the doctors show us, but it is evidently a very small fraction of what is likely in future to be accomplished as the mechanical and chemical difficulties in the way of present success are removed by further research. At present this subject, while of great interest and value to medical men, is of still more interest and value to dentists, but we are of the opinion that the time will come when this will be reversed and the doctors' gain from it will be greatest.

Part 12 of a Pictorial Atlas of Skin-diseases and Syphilitic Affections.—From Models in the museum of the St. Louis Hospital, Paris. Edited by J. J. Pringle, M. B., F. R. C. P. William B. Saunders, Philadelphia, Pa., Publisher.

This part, as the others, contains five plates, two of which are of syphilitic chancres. One is of xeroderma pigmentosum, another impetigo contagiosa, and the third urticaria pigmentosa. The picture illustrating chancre of the tonsil is excellent. Its companion, chancre of the nostril, might be almost anything from a nasal polyp to a rhinoscleroma, for it does not convey to the observer any definite characteristics of any disease. The plate illustrating chancres of the lip and tongue is good, especially the crusted chancre. The picture illustrating the initial lesion on the tongue could be easily mistaken for an ulceration from any other cause. Urticaria pigmentosa resembles a syphilitic dermatosis as much as it does the one it is supposed to represent. Impetigo contagiosa is fair, although if the crusting was darker it would not detract anything from the usefulness of the illustration.

As this is the last number, it naturally contains the index of the list of subjects; it will be of great aid to those consulting this valuable work. Taking it as a whole, this atlas is probably one of the most valuable of its kind that has ever been published in English, and too much praise cannot be given to the publisher, Mr. Saunders, for bringing out the work, and for the excellent paper, beautiful illustrations, and fine typography. The price, \$3 per part, \$36 for the whole, makes it an atlas within the reach of almost any one interested in dermatology.

Report of Fifty Cases Illustrating the Successful Treatment of Pulmonary Tuberculosis. By W. H. Riley, M.D. Reprinted from *Modern Medicine and Bacteriological Review*, August to December, 1897.

This pamphlet does not aspire to the dignity of a book; but, as a reprint, it so far surpasses the usual style and type that it seems to us worthy of special mention. In the first place it has two full-page plates, showing the appearance of the tubercle bacilli and the plasmodium of malaria. In the next place it departs from the humdrum in its method of treatment of tubercular cases, in that, having as a matter of prime importance a place with air and other climatic characters of the very best to recommend to its readers, it does not lay all its emphasis upon this one thing, but

starts out with the avowed purpose of treating the tubercular patient as a sick person in need of thorough attention in all directions. It pays special attention to conditions of the stomach and nutrition. It investigates the blood and the urine. It looks after all kinds of suitable exercises for weak people. It does not forget the value of hydrotherapy. In many other ways it deals with patients as sick persons and not merely as tuberculars. Therefore, we are prepared to read with some credence the story that it is able to give us of the fifty patients treated in this sanitarium.

Transactions of the Medical Society of the State of North Carolina. Forty-fifth annual meeting held at Morehead City, N. C., June 8, 9, and 10, 1897.

Nothing but praise can be bestowed upon the valuable papers collected in this volume. We trust that the excellent body of men constituting the Medical Society of North Carolina will not relax in its untiring efforts to maintain its high position as one of the ablest medical societies of our great country.

The X-Rays; Their Production and Application. By Frederick Strange Kolle, M. D., Radiographer to the Methodist Episcopal Hospital. New York: J. S. Ogilvie Publishing Company, 57 Rose Street. Price, \$1.

This handy little volume will prove of great service to all who wish simple, elementary explanations of the x -rays, their application and their management. It gives a clear statement of the successive steps that led to their discovery and also to the production of the fluoroscope. The applications of the rays to dentistry, mineralogy, zoology, comparative anatomy, physiology, and botany, in addition to their well-known applications in medicine and surgery, are clearly stated. The volume ends with the author's ideas of the possible future utility of the x -rays. Much of the work is devoted to elementary lessons in electricity so as to prepare the non-initiated to fully appreciate the subject as a whole. If the author had given a separate volume to the consideration of this phase of the subject or left the student to find it in his school-book, we think it would have been better. Then he could have given more information on the uses of the x -rays without increasing its size. A complete index at the end would also have improved it. On the whole the purchaser will find the volume satisfactory.

An American Text-book of Genito-urinary Diseases, Syphilis, and Diseases of the Skin.

Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York, and to the Methodist Episcopal Hospital, Brooklyn, and W. A. Hardaway, A. M., M. D., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis. Illustrated with 300 engravings and twenty full-page colored plates. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898. Price, cloth, \$7; sheep or half morocco, \$8. For sale by subscription.

The Saunders' "American Text-Books" on medical subjects have on several occasions had favorable mention in our review-columns. All we have yet seen commend themselves to our judgment as first-class in every particular. The one now before us is no exception to the rule and fully justifies the claims of its publishers regarding its thoroughness, accuracy, modernness, practical utility, convenience of arrangement, fullness

and excellence of illustration, and its general typographical beauty. Every subject, as well as the chief phases of each subject, is handled by an expert. This makes the list of contributors very large, and every name among them is a recognized authority in the field he covers. To the general practitioner it is a great advantage to have embodied in this one volume the ripest experience and best knowledge of the times on these kindred subjects. Hitherto he has had to buy several costly volumes to properly equip himself in this field as well as he can now do it with this one. In genito-urinary diseases and syphilis eighteen contributors have furnished as many special articles on urine-analysis, diseases of the penis, urethra, testicles, prostate, bladder, ureter, and kidney, on vesical calculus, functional disorders, acquired syphilis, syphilis of bones, joints, bursæ, tendons, muscles, syphilis of the respiratory, circulatory, lymphatic and alimentary systems, syphilis of the nervous system, syphilis of the eye, hereditary syphilis, treatment of syphilis and chancroids. In diseases of the skin twenty-six contributors have dealt with the forms with which they are particularly identified as specialists. All the forms are divided into eight classes as inflammations, hemorrhages, hypertrophies, atrophies, new growths, neuroses, diseases of the appendages of the skin, and parasitic diseases. The diseases of the appendages of the skin are subdivided into those of the sweat-glands, sebaceous glands, hair-follicles, and nails, while those of parasitic origin are subdivided into those due to vegetable parasites and those to animal. A feature that will commend itself forcibly to literary medical men is the complete bibliographical references that accompany part of the work, and while this is not of supreme importance to the general practitioner it is a guarantee of the quality of the material supplied. The illustrations are all very fine and many of them entirely new, never before having appeared in any work. Authors, editors, and publishers are alike to be complimented in the way they have done their work.

The Outlook, commenting on a pamphlet lately issued by the Atlanta University concerning the degeneration of the negro, says: "The five cities covered in the report are Atlanta, Ga.; Baltimore, Md.; Charleston, S. C.; Memphis, Tenn., and Richmond, Va. The average death-rate of the whites in these cities during the fifteen years ending in 1895 was twenty-one per thousand; the average death-rate among the colored was thirty-six per thousand. In other words, the death-rate among the negroes was seventy-four per cent. greater than among the whites. The reasons assigned by the negro investigators for the excessive death-rate among their race are of especial interest. In the first place, they find that it is not due so largely as has been supposed to the overcrowding of tenements. Only one-tenth of the negro families investigated lived in one-room houses. In the next place they find that the sanitary condition of the houses is not primarily responsible for the terrible death-rate. The first positive cause assigned for the greater mortality among the negroes is the excessive numbers of colored women who must daily abandon their children by going out to work to help support their families. Only one colored man in four, it was found, supported his family without assistance. The other reason assigned by the investigators for the greater mortality among their race is the general ignorance and disregard of the laws of health."

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EDITOR'S NOTES

It gives us great pleasure to announce that Professor William Osler, of Johns Hopkins University, has received the, to an American, unusual honor of being selected by the Committee of the Royal Society of Great Britain for recommendation to membership or fellowship in the same. We have no doubt of the result when his name is presented to that august body as its Fellows are as fully aware of his accomplishments and work as we are on this side of the Atlantic. We commend the committee on its choice and extend our congratulations to the professor on receiving such a distinction.

Elsewhere in this number of the BULLETIN will be found an interesting and valuable communication on apomorphine hydrochlorate by Prof. Babcock, of Chicago. If any of our readers have had similar experiences with this remedy or have used it in equally large doses, we should like to hear from them. We hope that what he says will be carefully noted and the remedy tried in such cases as he mentions, as it is evident from what he says that an exceedingly useful article of our materia medica is being neglected. The United States Dispensatory, in treating of apomorphine hydrochlorate, does not agree with Dr. Babcock, but as his information is direct and of later date, it is likely that he is right and

it is wrong. At the first appearance of a remedy from so powerful a base as morphine, it would be natural for early workers to act timidly and fix a very low dose. Impurities in the preparation would then render it hazardous to try large doses. Now, however, when perfectly pure goods can be secured, we should be able to get the true dose without difficulty. The following is the statement of the U. S. Dispensatory on the matter: "Under no circumstances should more than 1-4 of a grn. (0.016 gme.) be given at a dose; indeed, except to the strongest adults, and in narcotic poisoning, it is not safe to administer more than 1-8 of a grn. (0.008 gme.); the expectorant dose is 1-12 to 1-16 of a grn. (0.005 gme. to 0.004 gme.), frequently repeated by the mouth." With a statement like this confronting them it is no wonder that druggists are timid in putting up a prescription calling for doses of two or more grains. Should the patient by mere coincidence get worse or die it is easy to imagine the effect on a judge or jury in damage or criminal proceedings if a passage like the above should be quoted against a druggist who should dispense such a prescription. In the production of the Dispensatory the results known to have occurred up to the time of its publication with the kind of goods then sold has been fairly stated. If, now that we have purer goods, Dr. Babcock and others find the statement wrong they are doing good service to their profession and to the sick in correcting it.

The Topeka, Kan., *State Journal* tells of a merry war that was precipitated at the State Homeopathic Medical Society meeting at Library Hall, when resolutions were presented by Dr. Eva Harding protesting against the joint-meeting of the regulars, homeopaths, and eclectics.

There was a lively discussion, which almost precipitated a breach in the State Society. The resolutions were as follows:

Whereas, Certain persons assuming to act as representatives of the homeopaths of the State of Kansas, have arranged for a union meeting with that body of Empirics, to whom Hahnemann gave the name Allopath, and whose supreme boast is simply the merit of antiquity, who have taken up, advocated, and then been compelled to discard their shotgun prescriptions, blood-letting, heavy doses of calomel and jalap, the rejuvenating fluid of Brown-Sequard, the Koch's sure cure for consumption, the coal-tar preparations, perhaps the most fatal of all their fads, and are now putting their patients in cold storage—a remedy which seems even more efficacious in assisting their victims to the "happy hunting-grounds"—their regarding of all disease as excrescent, and to be lopped off, and the stomach unnecessary; and,

Whereas, Notwithstanding the flagrant confessions of the leading lights of their school as to the ultra-worthlessness, uncertainty, and direful re-

sults of their practice, they still clamor for recognition as a school and seek legislative protection; and,

Whereas, The doctrines of Hahnemann are to-day as he announced them, and as they will remain forever; therefore be it

Resolved, That we, the Homeopaths of the State of Kansas, do protest against such a meeting as a practical indorsement of their school, a shame and an insult to the memory of Hahnemann—the founder of the scientific law of cure—*Similia Similibus Curantur*.

Dr. A. M. Hutchinson, president of the homeopathists, was a member of the committee which had arranged the joint-meeting. He was therefore opposed to the resolutions, which after a lively discussion were finally tabled.

It is evident from this that bigotry is not yet dead in Kansas, and that a woman is its exponent. Homeopaths have always claimed that regulars had a monopoly of the detestable trait, but here is evidence to the contrary from one of their own exponents.

Dr. H. M. Ochiltree, of Haddam, Kan., one of the active regulars in getting up the joint Kansas meeting of the three camps of medical men, in replying to Mayor Fellows, of Topeka, said:

The great State of Kansas, already famous for its advances in social and political government, will to-day mark an epoch in her history which will set the pace for States and for continents, and will mark the tide-height of modern liberal thought.

For the first time in the history of this country the disciples of Hippocrates have met together in common. What difference does it make whether you have been sprinkled, poured on, or immersed, or whether you are singing the tenor, alto, or bass? As long as the salvation of the physical world is our life-work can we not join in a song which will be all the more musical for its different parts?

May we not fervently hope that the discordant notes which especially jar upon the ears of the invalid world will this day be so harmonized that a tuneful chord can be sounded which will reverberate throughout the earth, and that prejudice and bigotry may be thwarted in any attempt to prevent this inception from being the endoplast around which shall gather the unprejudiced opinion of the medical world until it shall fill the planet which we inhabit.

We may safely conclude that the walls of the old codes are crumbling away, and no longer serve to corral the progressive physician. The Goddess Hygeia will certainly look down upon this assemblage with a benignant smile and will extend her hands in a blessing upon a meeting so propitious, and bid us godspeed in our efforts to harmonize the medical factions.

And old father Æsculapius will rejoice to see the jealousy and animosity of his sons and daughters melting away, and that there is a prospect in the near future of a great family reunion to which all of his living descendants will be invited. The physician and surgeon have but one common object, and that is, to repair the defects in the human body.

It is not our different methods which clog the

wheels of progress, but our egotistical defense of pet systems.

With all of the physicians of the State of Kansas acting in harmony, we would be invincible, and before us the Philistines of charlatanry would flee in terror. But into this union power cannot enter unless the bigot ceases to be a bigot to-day, and is willing to view with unprejudiced eyes, either the discovery of the scientist Behring, or the theories of such noted physicians as Hahnemann and King.

Washington was first in peace and first in war, but Kansas is first in seeking to free the enslaved, whether to antiquity, to rum, or to bigotry.

Let our motto be: "The world for our field, all physicians our brothers."

The doctor is a constant reader of the *AMERICAN MEDICO-SURGICAL BULLETIN*. How pleasing the contrast that is here given as to the difference between a liberal-minded, humanitarian gentleman and a bat-minded, narrow-souled woman. It is pleasant to know that she was not sustained by her fellow homeopaths who were present.

PUBLISHERS' DEPARTMENT

THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio, in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set—one hundred and sixty pictures—for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C., M. & St. P. Ry., Chicago, Ill.

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IMPERIAL GRANUM

Some of the prepared foods are advertised in newspapers and circulars on the "cure-all and 'save-the-doctor-bill' plan. We have noticed some of their advertisements wherein the wonderful properties of the foods are extolled as cures for a long list of diseases. The Imperial Granum Food, however, is advertised only in the medical press and is sold through the recommendation of the profession. It deserves the support of physicians on this account therefore, as well as for its merits as an ideal prepared food.—*The Wisconsin Medical Recorder*, February, 1898.

NEWS

A Mrs. Caroline Croft, who lately died in London, England, has left \$100,000 for the man who discovers a cure for consumption or cancer.

The Louisiana State Medical Society held its nineteenth annual convention in New Orleans on May 11 to 13. The attendance was large and the papers said to be unusually good.

The North Carolina Medical Society held its forty-fifth annual meeting at the Mecklenburg County court-house, in Charlotte, May 3-5. Dr. Francis Duffy, of Newbern, presided.

The Trustees of Rush Medical College have decided not to open that institution to lady students because their facilities now are inadequate for the training of the large number of male students that attend.

A late governmental examination of the eyes of 8125 children in twenty-five elementary schools of London is said to have shown that scarcely 40 per cent. were possessed of normal vision in both eyes.

The Southern California Medical Society held its twenty-first semi-annual convention at the Arlington Hotel, in Santa Barbara, on Tuesday and Wednesday, May 3 and 4. Dr. C. S. Stoddard presided.

The twenty-seventh annual meeting of the Southwestern Kentucky Medical Society met at Paducah, Ky., on May 17 and 18. A large number of valuable papers were read. Dr. D. P. Juett presided.

Chancellor McCracken has announced that Bellevue Hospital Medical College and the University Medical College have consolidated. Dr. Edward G. Janeway will be the dean of the united faculties.

The Iowa State Medical Society held its 47th annual meeting in Our Circle Hall, Des Moines, May 18 to 20. About two hundred members were said to be present when President Hornibrook called the meeting to order.

The Pennsylvania Medical Society is said to have discovered that the study of physiology in the public schools as pursued at present is productive of harm rather than good. The teachers are incompetent and the books misleading.

A congress for the study of tuberculosis will meet in Paris on July 27. The most important phases of the subject have been formulated for discussion, and it is expected that much new information will be elicited on this subject.

On May 21 Dr. John B. Hamilton, editor of the *Journal of the American Medical Association*, and Superintendent of the Illinois Northern Hospital for the Insane, was elected Colonel of the First Regiment Sons of Veterans Volunteers of Elgin, Ill.

The members of the Erie Country, N. Y. Medical Society have pledged themselves to give medical attendance free to the families of all volunteers in the Spanish-American war. One hundred and seventy-six Buffalo doctors signed a pledge to this effect.

The *New York Sun* says that Dr. Henry Courtney, of Hancock Junction, Delaware County, N. Y., although 109 years old, makes daily calls on his patients, and when President McKinley called for

volunteers in the Spanish-American war he offered his services as surgeon.

The physicians of Chester, Pa., have united to form a protective association. The principal objects of the organization is the collection of bad debts and the blacklisting of dead beats who get their medical service free by changing doctors as soon as they owe a bill.

Dr. Erasmus Garrott, Chief Medical Inspector of the Department of Health of Chicago, who died at his home in Chicago, on April 19, said before his death that the only recognition of his labors he wished was to have placed upon his tombstone the legend "He Vaccinated."

The druggists of Washington, D. C., have begun a war on telephone-rates, and as a large number of them have ordered their phones removed, it is expected that the physicians, who also complain of high rates, will likewise have theirs taken out unless the company complies with their demands.

The Connecticut Medical Association held its 106th annual meeting in Warner Hall, New Haven, on May 25. The attendance was good. Dr. R. S. Goodwin presided. Dr. Henry P. Stearns, of Hartford, was elected President for the ensuing year; and Dr. N. E. Wordin, of Bridgeport, was elected Secretary.

The Medico-Chirurgical College of Philadelphia expects soon to be in a condition to confer on its students the degrees of D. D. S., Ph. G. and Phar. D., as well as M. D. The Philadelphia Dental College sought to restrain it in the matter, but Judge Gordon has dismissed the exceptions and left it free to act.

Surgeon-General Sternberg has announced in a letter to Dr. Gertrude Gail Wellington, that the United States Government will employ no women physicians for service in the field during the war. Dr. Wellington wrote to Washington offering the services of the National Emergency Association of Women Physicians, Surgeons, and Nurses.

The American Laryngological Association held its twentieth annual conference in Brooklyn borough, New York city, at the hall of the Long Island Historical Society, corner of Pierrepont and Clinton streets, May 16-18. Dr. Thomas R. French of Brooklyn presided. The annual dinner occurred at the Montauk Club the evening of the 17th.

Movements are on foot in several States to re-establish sanitary commissioners similar to those of the civil war. Medical men are tendering their services free for hospital duty. Sanitary fairs will, if necessary, come to the front again for the purpose of raising money, and everything will be done to look after the health, comfort, and enjoyment of our soldiers.

Dr. John B. Hamilton, in an address at the Physicians' Club, said that the danger to our troops from yellow fever in Cuba has been exaggerated. He blames Spain for its neglect in permitting Havana to be such a pest, and declares that if the British could drive the disease from Kingston, Jamaica, the Spanish surely could, if they would, from Havana.

Twice within a brief period New York physicians have been lured into houses to see female patients and then attempts made to extort money from them as the price of their release. The last attempt in Manhattan borough failed because the doctor was something of an athlete.

On May 19 he had one of the attempted black-mailers arrested and punished.

The Georgia Medical Association will hold its fiftieth annual meeting at Macon next year, with Dr. Howard J. Williams of that city as president. A semi-centennial souvenir button is to be prepared for the members, bearing the likeness of the first president of the society, and that of Dr. Crawford W. Long who, Georgians claim, was the first surgeon in the world to use an anesthetic.

The members of a travelling theatrical company were arrested on May 24, in Geneva, N. Y., and placed under quarantine by the Board of Health. They had visited many cities, held tent-shows and paraded through the streets while their members suffering from small-pox had been laid up one by one in different cities on the way. They have been ordered to disband and leave the State.

One Napa County, California, medical man has sued another for \$5,000 for services rendered an invalid wife. The defendant claims that the services were only worth about \$50 at usual rates, and that he had been led to believe that no charge was to be made particularly, as physicians do not usually charge each other for such services, and as the plaintiff had been asked to but did not render a bill.

The Medical Society of the State of Pennsylvania held its fiftieth annual meeting in Lancaster, on May 17 to 19. Lancaster was chosen for the semi-centennial meeting, as it was there the society was founded in 1848. Dr. W. Murray Weidman, of Reading, presided. Many interesting papers were read, and the excursions and entertainments made it an occasion long to be remembered.

The Indian School, at Carlisle, Pa., is turning out a large number of trained nurses. The daughters of the savage Oneidas, Ottawas, Wyandottes, Siouxs, and Pawnees are showing great aptitude in this line of training, and a leading Philadelphia physician is reported by the *New York Tribune* as saying "I never feel the least bit uneasy when I leave my cases in the hands of one of these Indian women."

The Michigan State Medical Society held its twenty-third annual meeting in Detroit, May 5 and 6. Only about 50 were present at the opening session, but about 250 were present at the close. Dr. J. B. Griswold, of Grand Rapids, presided. Many interesting papers were read, and among the rest was one on the Etiology of Yellow Fever, by Prof. Novy, of Ann Arbor. Dr. E. L. Shurley, of Detroit, will preside next year.

The indictment against Dr. Trumbull W. Cleveland, 45 West Fiftieth Street, New York City, has been dismissed by Judge Cowing, on motion of the District Attorney. The indictment was found on March 16, last, and it charged Dr. Cleveland with criminal negligence in connection with the death of Violet Irene Carhart, daughter of James L. Carhart, a theatrical manager. Insufficient evidence was the basis of the motion to dismiss.

The steamship John Englis is undergoing a complete transformation at the Morgan Iron Works, in Jersey City. She has become the hospital ship Relief, and is expected to be the finest army hospital boat afloat. She can accommodate nearly five hundred patients. Her distilling apparatus will furnish 3000 gallons of pure water per day and her refrigerator will produce over two tons of ice per day. Patients with contagious diseases will not be received on board.

It has just been brought to the attention of the

authorities in Naples, reports the *Medical News*, that the ragmen have been in the habit of purchasing the wadding or charpie used for dressing in the hospitals, and after washing it, selling it to upholsterers for padding sofas; the railroad cars have also been using this discarded material. A vigilance service has been established to prevent such sales, and this wadding or dressing is now destroyed in the sanitary furnace at Pasconcello.

Two physicians, Drs. Simpson and Ghiselin, of the City Hospital of St. Louis, Mo., are stated by the papers of that city to be in consternation over a huge joke that is being played upon them by persons who resemble them in personal appearance. During their absence from the hospital their doubles are said to come in and give orders to nurses and attendants, examine patients, enter their rooms, and appropriate cigars and the like. An effort is being made to catch them, but so far without success.

The Washington State Medical Association held its ninth annual session at Seattle on May 10 and 11. A good attendance made the meetings very interesting. Among the many interesting papers read was one on the X-Ray in Fractures, by the President, Dr. J. B. Eagleson; one on Post-Mortem Examinations, by Dr. Burns; one on Epidemic Cerebro-Spinal Meningitis, by Dr. Kibbe; one on a recent epidemic of diphtheria in Seattle, by Dr. C. A. Smith, and one on the X-Ray in Thoracic Disease, by Dr. Sharples.

Milk-inspectors in several cities have pronounced against the use of individual glass jars for milk as dangerous to health. They cannot be properly sterilized. The authorities at the West Point Military Academy have forbidden their use there. Only cans that can be sterilized with steam heat are said to be safe. Water hot enough to kill germs will break the jars. As these jars go from house to house and are handled by all sorts of persons, and even by those sick of contagious diseases, it is evident that there is danger in their use.

The Texas Medical Association held its thirtieth annual convention in Houston, May 26-29. Many members were in attendance. Resolutions were adopted condemning the Gallinger District of Columbia Antivivisection bill, a blow at scientific medicine. The Committee on Legislation reported the failure to pass a bill regulating medicine in that State, a new form of the bill was presented for debate by the members and for suggestions for improvement. Dr. James T. Wilson of Sherman was elected president for the coming year.

The Missouri State Medical Association that should have met in Excelsior Springs on May 24 to 26 was compelled to change its plans and meet in Kansas City on the same date because of the burning of the Elms Hotel. The citizens of Excelsior Springs were up in arms at the change and said some hard things against Kansas City for robbing them of the pleasure of entertaining the doctors. They say that they had far more than enough hotel room left to accommodate all that would come. The meeting at Kansas City was very successful.

A new form of tuberculosis is noted by Céourmont in *Arch. de Méd. exper.* (Jan. 1898), in which the tubercle bacilli were not found, but all other pathological conditions of tuberculosis existed, constituting an atypical form of tuberculosis. The micro-organism was a streptobacillus staining in gentian-violet and carbol-fuchsin, but not retaining Gram's stain. It was without motility. Pure culture reproduced miliary tubercle, caseating abscesses and the original fluid. This confirms the work of Dr. A. Gouget, who reported

the same pseudo-tuberculosis some time before in *Medical Week* (1897, p. 104).

On May 25 a New York court fined a woman \$50 on the technical charge of practicing medicine without a license. The way she paid the money showed that business was not languishing even if she did inhabit the metropolis of the most enlightened country on our globe and in this, the end of the nineteenth century. She was a witch-doctor and pretended to cure with charms and potions. She supplies her patients with charms wrapped up in a small piece of cloth, which they are ordered to wear near their hearts to keep witches away. Her fees are higher than the majority of medical men and people pay her without a murmur.

During the academic year 1896-7 the number of persons admitted to the medical profession in Germany, according to the *Brit. Med. Jour.*, was 1,284, showing a slight decrease as compared with 1895-6, when the number was 1,374, and with 1894-95, when it was 1,357. The largest number of admissions on record was in 1890-91, when the output of new doctors in the Fatherland was 1,570. Taking the States forming the German Empire severally, the number of new admissions during the last year was in Prussia 556, in Bavaria 388, in Saxony 115, in Baden, 88, in Alsace-Lorraine 43, in the Thuringian States 28, in Württemberg 19, and in Hesse 16.

The advertisers' journal *Printer's Ink*, has lately published a list of medical journals that have declared themselves willing to accept a patent-medicine advertisement for their pages. Out of 119 American medical journals solicited, thirty-six accepted it, fifteen rejected it, and the rest treated the offer with silent contempt. Among those mentioned as having accepted the offer on condition that four objectionable lines be omitted was the *Journal of the American Medical Association*. This, however, the *Journal* emphatically denies in a recent editorial entitled a "Clumsy Forgery." It seems that the claimed acceptance sheet was forged and never came from that office.

The *Hartford Times* says that the State of New York has a law forbidding the practice of medicine by any one who has served a term in the penitentiary. The law was passed in 1895, and its validity was disputed by a man named Walker, who had served a term of ten years in the penitentiary for an offense committed in 1878. On coming out of prison he took up the practice of medicine, and was in practice at the time the law was passed. The State court decided against him, and the United States Supreme Court has just affirmed the decision. It holds that the regulation is within the police power of the State, and overrules the claim that as applied to Walker's case the law is *ex post facto*.

The homeopaths of Philadelphia, and particularly those of the Hahnemann College of that city, are dissatisfied with the Medical Examining Boards, claiming that they are encroaching upon the rights of the colleges. The preliminary examination of students that begins on March 1, 1900 is distasteful to them, the fee for examination is said to be too large and the present examination of graduates is said to be a mere make-believe and not at all fair. They want all fees paid to the Council, and the Examining Boards paid fairly for their services, instead of as now giving all the fees from regulars to the Board of the regulars and from the few homeopaths to the Board of the homeopaths. A sort of Socialistic leveling of the funds would please them better.

We learn from the *Troy Times* that it is

definitely determined as the result of the disagreement between the council of Cornell University and its medical department that there will be another medical college established at the university. The donor of the medical college is said to be Oliver H. Payne, whose ambition to establish a medical school second to none in the world will be gratified by an expenditure of from half to one million dollars. The President of the University says that the new department which is to be designated the Cornell University Medical College, is to be located in the city of New York, although the first half of the course, comprising the pure sciences upon which practical medical training rests, will be duplicated by the faculty of arts and sciences at Ithaca, will be open to women on the same terms as to men, and students appointed to State scholarships by the superintendents of public instruction may obtain free tuition. The following members of the present faculty of the University Medical College have already been appointed to professorships in the Cornell University Medical College: W. M. Polk, Lewis A. Stimson, R. A. Witthaus, W. Gilman Thompson, George Woolsey, and H. P. Loomis. Dr. W. M. Polk has been appointed director and dean of the medical college. The Executive Committee was authorized to complete the staff, and it is expected that about fifty other appointments will be announced within a short time.

W. H. Brunner, Sanitary Inspector of the United States Marine-Hospital Service, according to the *Baltimore Sun*, lately reported that the deaths from yellow fever in five Spanish hospitals in Havana and Regla during 1897 were as follows:

Months	Havana	Regla	Total
January	152	109	261
February	43	74	117
March	42	56	98
April	76	112	188
May	89	102	191
June	181	234	415
July	211	227	438
August	185	112	297
September	179	138	317
October	71	57	128
November	48	53	101
December	17	15	32

Total 2,583

This mortality, says the report, represents about 10,000 cases of yellow fever. It will be noticed that deaths from yellow fever began to decrease in August, when they should have increased. This is accounted for by the fact that the Spanish government, alarmed by the increasing death-rate from that disease, began to place their sick in Havana Province in two hospitals at places known as Mariel and San Antonio de las Vegas. The following table will show the deaths from yellow fever in the other cities on the island during the calendar year 1897:

Matanzas	238
Santiago de Cuba	658
Sagua la Grande	378
Cardenas	235
Cienfuegos	212
Manzanillo	230
Holguin, Guines, Remedios, Sancti Spiritus, etc.	1,500

Total 3,451

Deaths in Havana 2,583

Total deaths from yellow fever in military hospitals, 1897 6,034

This mortality represents about 30,000 cases.

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EDITORIAL

PHYSICIANS' ACCOUNTS

THE question of the collection of physicians' accounts is one which must more or less interest every member of the profession who expects to live by his profession. It is doubtful whether there is any body of moneyed men who can compare in their financial carelessness with physicians. The statement made to us some years ago by the late Professor D. Hayes Agnew probably fairly represents the book-keeping of the profession. He said: "When I make any money I put it in the right-hand pocket; when I want to spend it I transfer it to the left-hand pocket; and in this way I keep my accounts."

It is for this reason that physicians in the courts of law, and especially in the Orphans Court, or other courts which settle estates, are often at such great disadvantage; even an appearance of dishonesty resulting not rarely from the lack of care and accuracy. The law of evidence being that the plaintiff is not allowed to give personal evidence that shall injure the estate of a dead man, there appear to be only two methods of giving evidence, in corroboration of his sworn bill, as to the services rendered by the doctor; first, by an original book of entry; second, by getting testimony from some outside person as to the services rendered. The latter expedient must evidently always be very difficult in the doing, and

always be at best very imperfectly done. It usually requires the physician to go, as it were, into the enemy's camp, and take a member of the family concerned; and in so doing the physician makes such person his own witness, and is bound by his testimony.

There is some tendency on the part of courts to throw out, as proof of *professional* services, books of original entry. The law requires that the book of original entry shall have had the entries made within twenty-four hours of the doing of the work, or of the selling of the goods; and that the entry shall clearly state the character, quality, amount, and value of the goods or services; indeed, every detail about the item involved must be given; the law also demands that the entry shall have been so made as to be intelligible to the ordinary person. It has been contended that it is not possible to properly give in a book of original entry the details as to the professional services rendered; professional services not being capable of being weighed or measured, and not having a definite commercial value. At present, however, no decisions seem to have been reached officially throwing out physicians' books when properly kept as books of original entry, and it may be that they will always stand.

On the other hand, it is plainly clear that nine-tenths of the physicians' books, at least as they are kept in this part of the country, are of no value whatever in an Orphans Court, and especially is it true

that the ordinary method of rendering the physician's bill, "for professional services, so many dollars," is in open defiance of the law of the country. If there be anything that is inimical to judge and lawyer it is a "lump" charge. The reasons of this are obvious, the size of the lump depends chiefly on the will and the honesty of its maker; there can be no sifting of such an account; the dough is too closely coherent for it to be put through the legal meshes which shall take out the false from the true. Usually the physician's account is kept as a series of marks and hieroglyphics, a cipher intelligible only to him who has the key; and even to the doctor himself, six weeks after the entry, such entry often gives very little information. If it be desired by any doctor to have his accounts kept in such a way that they shall bring a smile of approval to the stern judicial countenance, he should keep a day-book, in which should be entered the particulars of the visit, when it was made, how long it continued, what was done, and if medicines were given, the exact value, according to the system of charging adopted, of such medicine; the charging together in a single sum for "professional services and medicines" being a "lumping" of charges sufficiently irritating to the judicial mind to produce an apoplexy in a testy judge, and sure to be thrown out. Probably few successful and therefore very busy and overworked physicians would be willing to become a slave of the day-book, and to try in the wee hours of the morning to satisfy the judicial interrogators. Certainly the writer of the present article would rather be thought a fraud by the Orphans Court judges and lose various bills than spend such a life of toil at the galley-oar of accounts.

The case of the surgeon is still more difficult. The details of his work are so great

and elaborate that the amount of book-keeping required, according to the advice which we have heard given by lawyers of repute, would be overwhelming. It is asserted that the surgical book of original entry, to be satisfactory, should state how many visits were paid before and after the operation, and should also show exactly what was done and the time consumed in such visits, also the details of the operation, how long it took for etherization and other preparation, what amount of ether and other materials were used, and the value of such ether and other material, what was done at each stage of the operation in detail, and a history of the final after-treatment; also the number of assistants employed, and exactly what each assistant did. In fact, if it took an hour for the operation, it would probably take an hour and a half for its entrance in the book of entry.

Under all the circumstances it appears rather strange that physicians are paid as well as they are, not that they lose so many accounts. The proper measure for decreasing the percentage of losses seems to us to lie not so much in proper book-keeping as in the approximation to a cash basis. The surgeon has one refuge which he should always avail himself of in a doubtful case; namely, to make a contract with the parties concerned before the operation. Such contract might well be in writing, but if this partakes too obviously of a mercenary spirit and trade methods, it is only necessary that the physician have some member of the family of the patient, or some disinterested person, who has heard the contract made and is willing to swear or affirm to the existence of the contract in a court of law.

All this is sufficient to make an old-fashioned physician shudder. We will never forget the hours of unrest and anger pro-

duced in one of the old-time doctors by a patient having personally asked him for a bill instead of writing a note. "Just," as the old gentleman said, "as if I were a carpenter or a mason." Trade methods in their best aspects are, however, after all, only proper methods of dealing between man and man; and if the profession as a profession desires to collect its just pecuniary dues, such trade methods must be to a greater or less extent adopted. Long credits ought to be abolished. Recently an account was rendered in our Orphans Court for services rendered during a period of five years, and was very properly thrown out except for the last year. The possibility of fraud in such an account is, of course, very obvious; the natural supposition is that the physician did not send his bill because he was afraid he would not get it from the patient while alive. In our opinion the law should not allow a demand for payment of any professional services to be made more than a year after they are given. The right procedure for a doctor is to render his account at least every six months, and better, every three months; a few of our leading and progressive surgeons in Philadelphia are now having their bills sent in monthly, with, as they assert, a very good effect upon their incomes.

THE USE OF VIVISECTION

MR. GEORGE T. ANGELL, President of the Massachusetts Society for the Prevention of Cruelty to Animals, and editor of *Our Dumb Animals*, is a gentleman who bears the respect of all who know of the good work he is engaged in, and whose honesty and sincerity of purpose in that work none can deny. That the world is cruel, sadly cruel, in its treatment of its dumb animals is only too true, and every right-hearted person can but rejoice in the fact that there are men like Mr.

Angell who are willing to devote their lives and their means toward mitigating such suffering.

No class of men is more keenly conscious of the fact that the unthinking multitude is terribly cruel in its dealings with the lower animals than are physicians. But for this knowledge we should find it impossible to bear with patience the ignorant interference of humane societies with the work of physiologists and bacteriologists. It seems to be a failing of the majority of the race, whenever sympathy is enlisted in any cause, that that sympathy must carry them away from its reasonable application to a debauchery in its use. Mentally they fly off at a tangent and add evil to results that should be altogether good. They do not mean to do this, but it happens nevertheless.

That Mr. Angell should be mistaken in some of his conclusions when he deals with problems out of his scope is but what one should expect. That he should allow himself to have an opinion of his own on a subject that transcends his range of mental training but shows how slow the world is in learning to throw off its idiotic conceit. This we apply to the whole world collectively, ourselves included, and not to any person in particular. It is a universal failing, but one that is more and more intense the lower down we go in the scale of human intelligence. With the growth of education comes a growth in willingness to allow ourselves to believe that those who from their position and education have acquired special knowledge of a subject are the best judges upon anything and everything belonging to that subject. It certainly is a blow at our conceit to be compelled to acknowledge that any person knows more about a subject than we do, and that we should consequently submit to his judgment in matters pertaining thereto. That

"fools rush in where angels fear to tread" will probably always remain true because of human conceit. We are always sure we are right and the others wrong, and seldom do we take pains to discover whether the others have in their possession facts we are ignorant of that completely alter the conclusions. It is only the most highly cultured of men who refuse to express an opinion in opposition to special students until they have themselves mastered as much knowledge upon the subject as the men they are to answer. We are led to these thoughts from seeing the following note in the May number of *Our Dumb Animals*: "We have repeatedly asked for a single instance in which any important new medical discovery has been made in the past twenty-five years in Massachusetts, New England or the United States by vivisection, with the name and residence of the discoverer, and though this paper goes every month to several thousand physicians, have received no reply."

In trying to answer a fair opponent it has always been our plan to try and put ourselves as nearly as possible in the same condition of mind as himself. From the mental standpoint induced in physicians by their studies this request is altogether silly and shows that the writer was either incapable of putting himself in the doctors' place or unwilling to do so. That no answer should ever have been sent to him is therefore not to be wondered at. It is as if Franklin had been asked to show why he wasted his time in trying to prove that lightning and electricity were the same. Whoever would seriously propound such a question would necessarily be in a frame of mind that would make it a waste of effort for Franklin to try to answer him. It is just so in the instance before us. In putting ourselves as nearly as possible in the frame of mind of the writer of this challenge

we confess to a great deal of sympathy with him, and can see that it is an honest desire to elicit the truth. He holds a false but popular notion about discoveries of all kinds. It is evident that he has never fully understood the inductive method of modern science. This question was born of that lack of knowledge. Never was there a scientific discovery made in the world in which it was possible to show to untrained minds that it was necessarily due to the material used in making it. Mr. Angell might as well withdraw his challenge, for no one will ever be able to convince him or any other person not familiar with inductive productive processes that vivisection ever made one important new medical discovery. It is this very difficulty that makes it possible for the antivivisectionists to do so much harm. It is the thorough certainty of scientific men generally of the truth that *all great medical discoveries* have come from vivisection, that arrays them in solid phalanx along with physiologists and bacteriologists. Mr. Angell and those of his way of thinking cannot see that it is their minds that keep them from seeing as all experts see.

Vivisection has no such use as antivivisectionists seem to think that we medical men hold it has. Unfortunately this confusion of thought has entered the minds of some medical men before they began their studies and has stuck to them afterward. It sticks in spite of knowledge just as superstition sticks. The use of vivisection is to discover principles not cures. No one, no ten experiments ever did more than add a single brick to a house the building of which required millions of bricks. To prove to a child that each brick held a necessary place in the building would be as easy as to prove to a zoophilist that animal experiments had anything to do with principles that they know nothing about. They

cannot or will not see that all of physiology owes its existence to vivisection, directly or indirectly.

Physiology is the science of life as a whole and not of human life alone. Experiments made on animals are to find out what they will do under those circumstances and not what good can come to man from any given experiment or set of experiments. Every experiment made is to discover a fact, and every fact discovered has its place among, not alone millions of facts, but hundreds of millions. For the honest man, who really wants to know the good of vivisection, there is but one thing to do. He must study enough of these facts to get at what physiologists are trying to do, and then study enough of physiology to know its exact relation to pathology. Physiology is related to true medicine as geometry is related to navigation. To ask a sea-captain for evidence that any of the studies and experiments of those who developed the science of geometry ever discovered a new country or led a ship safely from a sand-bar, a reef, or a derelict, would be exactly the same as to ask a doctor to show some wonderful medical cure accomplished by vivisection. Medicine uses the principles discovered by vivisection, and there may be medical men as ignorant of this fact as there are seafaring men ignorant of the exact relationship of geometry to navigation. At least this is the only charitable excuse that we are able to frame for the renegade medical men who occasionally lose sight of this truth.

What reply could Newton, DesCartes, Arago, Lavoisier, Rumford, Volta, Dalton, Faraday, Tyndall, or other workers in pure science give to a challenge like this of Mr. Angell's if it had been hurled at them by men who think that all experimenting is sin? Or worse still, suppose that instead of its being put to them it had been put to

the mechanics and engineers whose methods were wholly directed by the principles that these discoverers had developed? Science never could progress in the way such a question implies that it should. Scientific workers who do not work with an eye single to the discovery of truth regardless of any useful purpose are quacks in science. Discoveries are not made by looking after uses. Induction is death to all such metaphysical methods. That was the way with alchemy as it sought the elixir of life and the philosopher's stone. Only when men gave up this method of working did they begin to make really useful discoveries. The true vivisector has no more thought of making any definite useful discovery, other than that expected to come indirectly from his work, than has the baby at the breast of the effect upon itself of the milk it is swallowing. He is after truth regardless of its human worth, but with that sublime faith in the goodness of the Supreme Ruler that he is positive that it will all prove good and beneficial in its due season. He knows that he is building up a mass of facts that will lead to an appreciation of the laws of nature. He knows that these laws are the divine thoughts and that the man who holds them has the key to nature in that direction.

Physiology as a whole is the key to medicine, and every new addition it makes increases its availability as a means of discovering what ails our patients and what we should give them to make them well. The mental attitude of the zoophilists toward medical men in this is the same as the mental attitude of the anarchist toward the man who believes in constitutions and laws. The anarchist asks such a man to prove to him wherein any law or constitution ever did any working man any good. He demands that the particular law or part of the constitution and the particular

workingman so benefitted be pointed out with date and residence. He cannot see that the effects of the laws and of the constitution are so interblended with all government, order and civilization that it is impossible to separate them in the way he demands. The public good and the laws interblend as closely as the warp and woof of a piece of cloth. He cannot or will not see it. It is precisely the same with medicine and the products of vivisection. They are woven together in every part in such close interdependence that no such thing as particular or individual benefit is discernible except to those who have clearly mastered the laws of physiology. If Mr. Angell really wants an answer to his challenge that he will be able to understand he must take up Foster's Physiology and study it thoroughly, then take up pathology and study it in its relations to physiology, and we are quite sure that he will be able to answer his own challenge in a manner that will be perfectly satisfactory to him. Until he does so the task he seeks to impose upon medical men is exactly equivalent to asking them to teach a man born blind how to discriminate between colors.

How many medical men give sufficient attention to the dangers attached to some prescriptions? Recently a New York pharmacy was wrecked through the attempt of a clerk to mix together chlorate of potash and salicylate of soda. The compounder himself was so badly damaged that he is likely to remember as long as he lives that oxidizing and reducing agents can only be triturated together at the imminent risk of the life of the person who does it. More attention should be paid to the matter of incompatibility in prescriptions than is usually bestowed thereon. In the not-remote future we may take this matter up editorially in a way to be of service to our readers.

AMONG THE EDITORS

SECTARIANISM

The number of practitioners who are willing to call themselves simply physicians, is rapidly increasing, and but for impure motives, would grow much faster. Men are appealed to on all sorts of low grounds to join sectarian societies and some do it, "for the loaves and fishes."

How men can deliberately degrade themselves by such acts we are at a loss to see. These men admit that they have no belief in so-called sectarian principles, do not even understand what they are or pretend to practice in accordance therewith, but subscribe to them for the purpose of gaining practice! A noble effort, is it not! We have received numerous letters commending the position taken in the editorial contained in our last issue, in respect to medical unity, and we have had conversations with a number of the best men in the profession, who cordially agree with us.

All agree that the American Medical Association can afford to take the most liberal position toward those who are not members, even to such as are denominated sectarians. It would be a grand move at this time if a plane could be found upon which all could meet, and discontinue sectarian designation.

When two parties disagree the best way is arbitration, and there seems no reason why our ethical differences could not be settled in this way, if we cannot agree between ourselves. Let us ask some eminent men outside the profession to formulate a plan of unity for us.

The first move according to our view would be for the American Medical Association to announce that non-sectarian designation shall be the only qualification for membership of a candidate otherwise eligible, that is, a duly licensed practitioner of good moral character. No "abnegation of sectarian principles and practice" should be required.

It is impossible at this day to define sectarian principles and practice.

There are members of the American

Medical Association who condemn treatment with drugs altogether, and substitute hydro-therapeutics. They are tolerated because they do not designate themselves as sectarians—hydropathists.

The Medical Society of the State of New York is without a code of ethics, and will remain so, hence its members cannot be affiliated with the American Medical Association until its code is changed to admit of this.

All agree that this code is a "dead letter," then why keep it to demoralize and degrade its members, who do not pretend to live up to it?—*New York Med. Times.*

THE EVIL OF TONIC AND STIMULANT DRUGS

Physicians, druggists, pharmacists, and all others who are engaged in the nefarious business of tempting men and women into bondage to cocaine, morphia, and whisky through the prescription, sale, and manufacture of those soul- and body-destroying drugs which produce good feeling without good condition, which obliterate the sense of pain and fatigue without removing the cause of the pain or increasing the power of endurance, which make a man happy who has not earned the right to happiness by right conduct, are, wittingly or unwittingly (doubtless in most cases unwittingly), combined in a veritable conspiracy against the physical, mental, and moral well-being of humanity; and the time has come when an earnest voice of warning should be everywhere raised against the far-reaching and most pernicious influence of these so-called tonic and stimulant drugs.—*Modern Medicine.*

FEMALE MEDICAL PRACTITIONERS IN AMERICA

The United States are the happy hunting-ground of the medical woman. The increase in the number of female practitioners of the healing art during the last twenty years has been, according to the *New York Medical Record*, "phenomenal." It is estimated that there are now 4500 women doctors in America, as against 527 in 1870. The majority of them are general practitioners, but among the number there are also hospital physicians and surgeons, specialists for diseases of women, alienists, or-

thopedists, oculists, aurists, electrotherapeutists, professors in schools, orthodox and unorthodox, homeopaths, and representatives of all the multitudinous varieties of sects and systems that flourish with such rank luxuriance in the great Republic of the West. It is said that most of them do fairly well, and one or two of the most prominent among them are said to earn a professional income of 25000 dollars (£5000) a year. Our contemporary adds that the "rush by women to enter the medical profession has in recent years been most marked, and it may be taken for granted that the increase of women doctors with the present facilities for gaining a degree will continue." The situation, in fact, is somewhat serious for the male doctors, as it is obvious that with the added stress of increasing female competition the chance of earning a tolerable livelihood by the practice of the healing art in the United States must, for the larger number of members of the profession, tend more and more to become a vanishing quantity.—*British Medical Journal.*

PLACE AUX DAMES!

The best way for the women to prove their intellectual equality is to prove their superiority! This they are fast proceeding to do. There have been recently two striking illustrations: Madame Klumpke-Dejerine occupies the central position of a picture of the prominent doctresses of the world, which the *Leipzig Illustrated* presents to its readers at the beginning of April. Madame Dejerine was formerly a Miss Klumpke, of San Francisco, and went to Paris some fifteen years ago with her two sisters, all of them to work out careers for themselves. The three sisters have been eminently successful. One has had her pictures accepted at the Salon; another is the mathematician at the Paris Astronomical Observatory, and Madame Klumpke-Dejerine herself is well known for her work in nervous diseases. The symptom-complex caused by affections of the nerves that pass out of the cord between the eighth cervical and the first dorsal vertebrae, especially with the involvement of the sympathetic in this region, and the resultant ocular and facial symptoms, is

known as the Klumpke paralysis, as it was her study of it that first showed its individuality. Since her marriage with Professor Dejerine, they have worked together on the volume on "The Anatomy of the Central Nervous System," which appeared some time ago under their joint-names. Since Miss Klumpke's time the position of *chef de clinique* at the Paris hospitals is open to women, she having won for them that privilege by distancing her male competitors in the examination for it, after her graduation.

The second instance is the fact that a doctor's degree has just been conferred on a woman, Fräulein Hildegard Zeigler, by the University of Halle-Wittenberg, at Halle. It is a doctor's degree in philosophy, conferred after an examination passed *magna cum laude*, and her promotion was the occasion for quite a demonstration of friendly feeling. The last doctor's degree conferred by the University of Halle on a woman was almost a century and a half ago, in 1754, and that was a degree in medicine. The title of the doctor's dissertation for graduation was as follows: "Of the too rapid and very pleasant, but often uncertain cure of disease," which shows that our lady colleague of the last century was not too credulous, but was a thoughtful, practical person, who looked beyond the immediate present.—*Philadelphia Medical Journal*.

THE "INSANITY DODGE"

It is notorious enough that the plea of insanity in criminal cases has fallen into popular discredit and the term "insanity dodge" is characteristic of the common notion, in this regard. That this popular idea is to a certain extent erroneous is also true enough, though it may not be so easy to convince the average layman of the fact. Indeed, the very cases that have made the plea unpopular may be and often are the ones in which it is most justly urged; the public furor for the execution of some imbecile or paranoiac whose crime has especially aroused popular reprobation not infrequently doubly blinds justice and leads to what is hardly morally better than lynch-law under its forms. Sir James Mackintosh, or whoever else it was that made many

years ago a rather formidable charge of judicial murder against the then existing English law on this account would, were he living still, find many instances in modern practice in this and his own country to warrant his accusations.

On the other hand, it must be admitted that the plea is far too often utilized to aid undoubted criminals to escape the due punishment of their crimes. This has been the more easily accomplished by the aid of the very proper feeling that it is better to let the guilty escape occasionally rather than to risk the unmerited punishment of an irresponsible and legally innocent individual. The fact also that there has been no legal standard of medical expertness has been an important factor in the production of the miscarriages of justice in either direction; the opinion of the skilled alienist has counted for more than that of any other medical witness, however really unqualified he may have been in this particular specialty. The result has been to bring all expert medical testimony into discredit, and as a profession we have suffered.

There are many in the so-called criminal classes who are so near the boundary of mental soundness as to make a plea of insanity in their case at least plausible. There are others again who are clearly over the line in some respects, and who yet may be more or less responsible for their criminal acts. The law, recognizing no intermediate stages between sanity and insanity as regards responsibility, creates infinite possibilities of injustice in special cases. The result is that our penitentiaries abound in cranks, while occasionally a rank criminal is turned loose unpunished for his offenses. The remedy, if there is any, is not to be found in railing at the "insanity dodge" or condemning lunatics alike with the sane criminals. A temporary commitment to the care of a skilled alienist diagnostician would be the best and most natural solution of the question, but this is apparently not always practicable under present conditions. We are still left to the discretion of judges and the fallibility of juries where legislation has failed to meet the demands of medical science and common sense in this important matter.—*Jour. of Amer. Med. Assoc.*

CURRENT TOPICS

ON THE CARE OF CHILDREN

The *Annals of Gyn. and Ped.* (February, 1898) calls attention to the frequency of the words nervous dyspepsia, nervous prostration, nervous depression, nervous exhaustion, and neurasthenia. "Americanitis," as the trouble has been so aptly styled, is becoming more and more common, and the increasing frequency with which these nervous disturbances are occurring in children suggests one way in which we may do something to escape this experience and help our fellow men. Children are taught to read and write and solve problems, to speak various foreign languages, as well as learn the laws and usages of their own. They must also become familiar with history, ancient and modern; sciences, physical and mental—in brief, it would seem that the child must gather a superficial knowledge of all that is in the heavens and earth, and under the earth. Nor does the training stop here. Music must occupy one or two of those precious hours when the child is free from the artificial restraints of school; and he or she must learn to dance and walk properly, and behave in just the right way on various occasions. Parties and select assemblies begin all too early. Concerts must be listened to, and lectures endured, and museums and art-collections visited. Newspapers are to be read, magazines and novels devoured. Then there are various sports which, instead of giving the needed relaxation, are entered into with a concentration and persistence which almost entirely destroy any such possibility.

Children are not taught the need of knowing how and when they may "let themselves go." It is fast becoming a forgotten art. By this we do not mean an unrestrained activity—there is plenty of that—but an absolute inactivity, a complete rest of mind and body. Such a rest we get in healthy sleep. Children should be taught not only the need of physical rest-periods in each day's life, but should have mental rest-periods as well. We forget how busy their little minds are making new observations, and expect them to be continually using all their other faculties as well. Great learning and attainments are admirable; but of far greater importance is a sound, clear mind in a strong, symmetrical body.

We are not making a plea for less instruction or for a new arrangement of the courses of study, though strong arguments might be presented for either of these. Knowl-

edge is power, and that, too, of the highest kind. But we would urge upon our brethren of the medical profession the need of our taking a stand for greater moderation in the attempts at absorption of knowledge, and distinct training of the power of self-control, which shall enable one to rest when the judgment says it is wise.

If we can get children thus to rest and content themselves we shall have far fewer cases of inability to finish school, of eye-strain, of musical back, etc. And as these children grow older their capacity for knowledge, having developed naturally, will be far more valuable. They will, too, have self-control and ability to say "no" to themselves when tempted to overwork or over-pleasure. The nervous system, properly cared for, does not easily give us trouble. Dyspepsia, prostration, depression, exhaustion only come after long abuse and neglect, often due to ignorance. Every one sees the result, but few know the causes. A word of warning or advice dropped here and there by the family physician, explaining the simple source of the trouble, will be of vastly more value than any amount of medicine.

S.

THE RAPIDITY OF ABSORPTION AND ELIMINATION OF SOME COMMONLY EMPLOYED DRUGS AS A GUIDE TO THEIR ADMINISTRATION

According to the *New England Medical Monthly* (February, 1898), the effect of a drug upon the different organs upon which it is desired to exercise a particular influence is too often studied, while its influence upon the organs of absorption is ignored; eliminations should govern the dosage as to size and frequency. The direct influence of the remedy as it passes through the organs of absorption, and those of elimination may be great. A study of modern medical literature reveals a distressing lack of attention to these points, and careful practitioners are found ordering drugs which are slowly eliminated, very frequently in twenty-four hours, and drugs which are rapidly eliminated, very seldom in twenty-four hours, with the result in the latter instance of practicing what an eminent therapist has called "kangaroo therapeutics," viz., a great effect of short duration at long intervals. Thus to give dilute hydrocyanic acid three times a day for the relief of a cough will produce a sedative influence of a powerful character, which will last at the most but a few minutes, and leave the patient unmedicated for several hours; and the use of ammonia as a stimulant in a similar manner is equally futile. On the other hand, the

frequent administration of digitalis and the bromides is unnecessary, for these drugs are so slowly absorbed that the system receives a gradual dose, so to speak, and they are so slowly eliminated that if the doses are frequent the drugs simply accumulate in the body and produce an excessive effect. All drugs cannot be arbitrarily divided into those which are slowly and those which are rapidly eliminated; but some drugs do lend themselves to such a classification, and some of those which are slow of absorption are slow of elimination. It is because drugs which are slowly eliminated are frequently given too often in twenty-four hours that the so-called "untoward effects" of many of them are developed. No part of pharmacological study is more neglected than this. In many cases the drug is so completely destroyed in the body as to prevent any estimation of its presence in the urine; and again, in some instances, the methods of testing for the substance in the eliminative secretion cannot be relied upon. Of the mineral drugs which are rapidly absorbed and eliminated, potassium iodide, even in so small a dose as three grains, appears in the saliva and urine in from ten to twenty-five minutes, and does not tend to accumulate in the system to any great extent. Its rapidity of total elimination is apparently not so great as its speed of total absorption, for though it soon disappears from the stomach, it appears in the saliva for about thirty-six hours afterward. It is evident, therefore, that it should be given freely and frequently at first until the residual amount has reached its limit, when smaller doses may be given less frequently, for the purpose of maintaining the iodine influence. The potassium having a depressing effect upon the vital functions, especially if given in large doses, commends the sodium iodide as a substitute. As to the bromides, these are rapidly absorbed but slowly eliminated. The same rule which was stated as governing the use of the iodides holds good here, the administration of either iodides or bromides in frequent small doses possessing no advantages, and being apt to disorder the digestion. They should be given in full doses two or three times a day. The rapidity of absorption and elimination of mercury depends to a very great extent on the variety of which is given. The drug in some forms is so soluble, in others so insoluble, that very great delay in its elimination must often ensue because of its slow absorption. Here, too, after a full mercurial effect has been produced it is well to decrease, as do most syphilographers, the dose, and only give enough to maintain the effect. The

plan of using an iodide every now and then to aid in the elimination of the residual mercury is advisable. Belladonna and atropine are both absorbed with extraordinary rapidity, and equally rapidly eliminated in the urine. This drug may, therefore, be wisely given frequently, as may also aconite. Arsenious acid is absorbed fairly rapidly, but eliminated very slowly indeed, beginning only after the lapse of fourteen hours and continuing for sixty hours. It should therefore be given at long intervals each day. The development of an arsenical rash is an indication, so believed, that elimination through the skin is beginning, it being chiefly eliminated by the kidneys. Finally, it should be remembered that a large number of drugs produce a cumulative effect, although this term is usually applied to the effect of the excessive use of digitalis.

L.

MODE OF DEVELOPMENT AND VITALITY OF THE PNEUMOCOCCUS IN DIFFERENT SERUMS

F. Bezançon and Griffon presented before the Paris Biological Society, at its session Feb. 19, as recorded in *Sem. méd.* (No. 10, Feb. 23, p. 80, 1898), the result of their researches with culture of pneumococcus on the serum of man and animals.

In the serum of a young rabbit the culture is very rich, but the microbe has a short and limited vitality; but in the serum of an old rabbit the culture remains limpid and the life of the microbe is not limited. The same differences for the dog and man were found at the varying ages.

Therefore, the duration of the vitality of the microbe (pneumococcus) was inversely proportional to the richness of the growth; and, consequently, it was greater in proportion as the serum of the organism was more resistant to the pneumococcus. H.

DIPHTHERIA OF BIRDS AND DIPHTHERIA IN MAN

This interesting biological question as to the relationship of these forms is taken up by Galli-Valerio in the *Centralbl. f. Bakter.* (Vol. XXII, p. 500, 1897). The following is a summary of the paper:

1. That under the name of "diphtheria" in birds one confounds many different things.

2. That among the forms it is impossible to exclude true diphtheria with the Klebs-Loeffler bacillus, capable of being transmitted to man.

3. That there are certainly other forms, such as have been observed by Lois and Ducloux, which can surely give to man various pseudo-diphtheritic anginas. J.

ORIGINAL PAPER

CONSERVATISM IN THE USE OF THE STOMACH-TUBE.

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IN 1894 the writer presented to the Buffalo Academy of Medicine a paper entitled "What Can Be Done in the Diagnosis and Treatment of Gastric Diseases Without the Use of the Stomach-tube?" (See *Therapeutic Gazette*, Sept. 15, 1894.) The present paper is intended to embody the results of subsequent experience, which, considering the number of investigators in this field, has accumulated rapidly, even in this short period. Still, as the common fund of experience is differently interpreted by various writers, it is only fair to preface such an article as this with an expression of opinion, so that the reader may discount the personal bias of the writer. The first paper was written with the idea of solving a problem in spite of debarring certain obvious expedients, just as one might similarly limit himself in a mathematic discussion, and also, with the intention of showing what might be accomplished if the patient obstinately refused the passage of the tube or if he were in a serious physical state. The present paper goes rather farther in the direction of conservatism, as the writer is now prepared to take the stand that the tube should not be passed as a matter of routine, but that some definite indication as to diagnosis or treatment should be required before employing mechanical interference. On the other hand, the writer would not like to be considered an extremist in the direction of conservatism, especially as he often uses the tube three or four times a day, and seldom has a week pass without its use, even in the dullest season.

While the use of the soft-rubber siphon has made possible a safe and convenient method of studying the details of gastric physiology, it is no longer justifiable to start afresh in the study of each case of digestive trouble. It is not only allowable to

use the same means of inductive reasoning toward a diagnosis which we are compelled to employ in other diseases, it is worse than affectation to pretend that we have learned nothing from experience with past cases, and to tell the patient that we are helpless in his case, without repeating the chemic tests which have already been made in hundreds of similar cases. Taking gastric cases as they come, full diagnosis should be possible, with only a slight chance of error, in eight out of ten, without the passage of the tube. But, of course, in the occasional puzzling case, the diagnostic use of the tube is as urgently demanded as ever.

The same line of thought applies also to treatment. Diet, exercise, hygienic measures, occasionally hydrotherapy, or even electrotherapy, massage, deserve attention. In no line of practice can drugs be used more rationally or more successfully. Laundry-work is only part of our therapeutic armamentarium, and a part that is no more dignified and no more scientific than any other properly directed means of relief.

One of the first questions that presents itself in this discussion relates to the possibility of immediate danger from the passage of the tube. There is a tendency to ridicule such an idea in connection with a soft, blunt, flexible instrument, but a real danger exists. The tube has occasionally been passed into the larynx, and, in such an event, immediate recourse to lavage would almost certainly drown the patient. The warning is often given, "Be careful not to pass the tube into the larynx." As guiding the tube is quite impossible with the ordinary mode of insertion, this warning should be, "Be careful not to proceed with siphonage or lavage until it is evident that the air-passages have not been entered." Although, to the writer's knowledge, no cases of such accident are recorded, it is evident that false teeth might be pushed ahead of a stomach-tube, and that there exist throats, so contracted by disease, that the introduction of a large tube would be sufficient to interfere appreciably with the breathing-space. The writer once desisted from lavage on account

of dyspnea, partly neurotic, but partly due to large tonsils, which left scarcely any air-space in the pharynx around the tube. Laryngismus stridulus is occasionally encountered, but it is not often a serious matter.

The only conditions in which the soft-rubber tube is to be thought of as a means of producing direct, mechanical injury, are aneurism, varicosity, abscess, and ulcer, so situated and with such delicate structures that the least scratch or pressure can determine a loss of continuity. Ewald condemns the use of the tube in gastric ulcer—though less emphatically of late than formerly. He mentions cases of Cornillon and Daguet, in which the tube caused fatal hemorrhage. While frank, peptic ulcer furnishes its own diagnosis and raises a danger-signal against local interference, there are many atypical cases, especially if we use the word ulcer in as broad a sense as it is used in external surgery. Thus, the legitimate diagnostic use of the tube may afford the first intimation of the existence of ulcer, and in malignant and chronic catarrhal conditions culminating in ulceration and erosion, the need of cleanliness or of local treatment may override the known danger of passing the tube.

The writer has elsewhere alluded to two cases of esophageal varicosity due to hepatic sclerosis and complicated by gastric catarrh. The diagnosis of the varicosity was, of course, not made till death occurred from hemorrhage. In one case life was undoubtedly prolonged by the use of the tube, although each passage might have proved calamitous. In the other case the fatal hemorrhage occurred at the hour set for lavage, an emergency call having prevented the attending physician from calling for the writer.

In *Mathew's Quarterly*, for April, 1898, the writer has mentioned a patient with cancer of the cardia and esophagus, who apparently hastened the growth of the tumor by his endeavor to push a blunt ivory bulb through the stricture. In all similar conditions the physician must be on his guard.

The two or three cases of aneurism ruptured by the tube may have been due as

much to rise of blood-pressure as to local traumatism. At any rate, aneurism anywhere in the body, as well as calcareous arteries not dilated, contraindicate the passage of the tube. On similar grounds, all forms of cardiac degeneration, hernia, pregnancy, piles, and ulceration of hollow organs, may be mentioned as contraindicating the passage of the tube on account of the danger of an elevation of internal tension. Such contraindication is not always absolute.

Tendency to laryngismus stridulus, asthma, chorea, epilepsy, and even hysteria, may render the use of the tube inadvisable. Febrile diseases are generally held to contraindicate any such local interference, though the exact reason is usually not stated. Probably, if degeneration of the heart had not occurred, and there were no great danger of reflex rise of temperature, lavage might often be beneficial in spite of fever.

Acute gastritis, especially if the term be limited to the corrosive stage, contraindicates all but the most soothing applications to the stomach. But if the elimination of a poison must be thought of, the liability of damage from the muscular strain of emesis is as great as from lavage and siphonage—greater if the patient happen to be accustomed to the use of the tube or in such a condition that reflex spasm need not be anticipated.

The writer once mentioned acute peritonitis as a contraindication to the use of the tube, when a surgeon present reminded him that peritonitis is always a surgical disease and that lavage may be needed preparatory to operation. It is not the purpose of this paper to contest the claim of the surgeon, but it may be said that the medical man will not be apt to interfere mechanically with the stomach, unless at the request of the surgeon and for purely surgical purposes.

It must be admitted that this list of contraindications cannot be fortified with a formidable array of fatalities. This, however, rather testifies to the prudence of the workers in this field of practice than to the innocuousness of the tube indiscriminately

employed. It is not worth while to anticipate such arguments as those of a few surgeons who say, "I never had a death from chloroform, so I give it in every case," or "What is the use of bothering about the urine? I never pay any attention to it and my cases don't die."

By "Conservatism in the Use of the Stomach-tube" the writer means something more than the avoidance of fatal accidents or immediate injury. The temptation is strong to paraphrase a common bit of cynicism into "Any fool can pass a stomach-tube, it takes a wise man to know when not to pass it." But it is better to make the milder statement that the stomach-tube ought not to be considered as bearing a much more important relation to the stomach than the catheter does to the bladder or the syringe to the vagina or rectum.

Diagnostically, the tube aids in determining (1) the size and location of the stomach; (2) its degree of motility; (3) its secretory power; (4) the abnormal chemic changes that take place in chyme; (5) the presence or absence of mucus, epithelium, boils, foreign bodies, blood, etc. The first purpose is more conveniently and comfortably served by auscultatory percussion, by ordinary percussion and auscultation, by palpation—though few persons are expert enough to locate a stomach by palpation unless it is markedly abnormal—or by the writer's fluoroscopic method, using a capsule filled with bismuth or iron powder. Almost never is it necessary to rely on the tube to diagnose prolapse or dilatation of the stomach, and, certainly, the crude and dangerous method of measuring the stomach by pouring in water till the organ is full should be counted malpractice. Occasionally, it is helpful to supplement the external examination by using the tube to pour in water or to blow in air, or to use an endogastric rattle or bell (Kellogg's method), or to illumine the stomach. Gastric motility may be fairly well inferred from the size and location of the organ, but the only absolute test is to obtain the stomach-contents. The salol test and other similar expedients are not reliable except when very conspicuous deviations from the normal are obtained.

The questions as to the secretory power of the stomach are, in most instances, limited to the formation of hydrochloric acid. Much or little acidity may be inferred from the presence or absence of effervescence after swallowing sodium bicarbonate, at the height of digestion. This test, however, cannot be relied on till the examiner has learned by much practice to distinguish adventitious sounds, including the rustling of garments, the esophageal murmur, and the peristaltic gurgle. Nor can a careful study of gastric chemistry be made without the siphonage of the chyme. Neither the stomach-bucket nor any similar device is worth the trouble which it causes physician and patient. The production of emesis may, at times, be preferred to the passage of the tube. Of course, no direct, chemic irritant can be introduced into the stomach without interfering with the reactions. Abnormal changes, although differing in degree and kind, are practically limited to the too vigorous development of saprophytes, requiring the same means of control. As a matter of scientific interest, we may like to distinguish between acetic, butyric, lactic, and other fermentations occurring in carbohydrates, the putrefaction of albumins and the rancidity of fats, but the treatment is essentially the same for all these conditions. Indeed, it is surprising to find certain cases in which only one organized ferment seems to have multiplied to any extent in the stomach. For purposes of diagnosis, the formation of gas in the stomach—care being taken to discount the normal or nearly normal eructation of air swallowed during a meal—the sourness and odor of eructations usually suffice in cases of excessive organic fermentation permitted by a failure of hydrochloric secretion. The use of the tube for diagnostic purposes is scarcely ever necessary.

The examination for evidences of catarrh, epithelial changes, cancer, ulcer, parasitic involvement, etc., is usually rendered possible without siphonage on account of the frequency of vomiting. Lumbricoids are not rarely vomited, but it must be almost impossible to extract them through a stomach-tube. In some instances of this class of cases the tube is urg-

ently demanded for treatment; in others quite a strong contraindication exists, and its diagnostic use must be governed accordingly.

In mild and temporary forms of dyspepsia it is usually possible to distinguish without recourse to the tube, two forms: (1) superacidity with good proteid digestion, hearty appetite, especially for proteids, unless the gnawing pain of the empty stomach is especially persistent, with pain due to emptiness and appeased by feeding, with marked effervescence on the application of the soda test and without gas-formation; (2) subacidity, with impaired digestion, poor appetite or capricious appetite evidently due to gastric distress, tendency to fermentation and gas-formation, lack of effervescence unless organic sourness is excessive. The former is rare—at least in the experience of the writer—the latter is common. Superacidity becomes, however, less rare, as one deals more and more with overfed and overworked and overwrought individuals. The diagnosis can usually be made without the passage of the tube, while treatment requires no local interference. Occasionally the history and physical examination will be indecisive, or circumstances may call for immediate diagnosis or the moral effect of heroic treatment may be desirable.

Chronic cases of stomach-trouble are, for the most part, catarrhal, with atony, or very often actual dilatation. This is true, at least, of a practice consisting mainly of consultation and reference cases. Such patients need every particle of nourishment which they can digest, and frequent interference with the stomach is decidedly contraindicated. On the other hand, especially when much mucus is formed or when there is stagnation of the gastric contents, lavage and other local treatment is necessary. In each case the indications and contraindications must be carefully balanced. Often there is a suspicion of malignant disease, demanding every possible ray of diagnostic light; at times, on the contrary, a vague history of hemorrhages, or of black stools, makes it expedient to postpone the passage of the tube till the case has been studied

for some time. Dilatation of the stomach is a very common disease, but it rarely, if ever, exists uncomplicated with catarrh or cancer or a cicatrized ulcer of the pyloric region. While dilatation is pre-eminently the gastric disease that calls for lavage, care should be taken not to increase the trouble by the weight of water introduced nor to abstract too much nutriment. Better a slightly sour stomach with food than a clean stomach with starvation.

One frequently encounters the implication that the question as to the propriety of passage of a stomach-tube applies only to the first seance; that if the ice is once broken one is free to practice lavage as often as one pleases. Even the best textbooks are vague regarding the frequency with which the tube may be passed. It often happens that at the first passage of the tube, a brave or reckless patient will be surprised into a docility which, at the next trial, when the discomfort of the maneuver is fully understood, will be wanting. Occasionally genuine discomfort, muscular lameness, or general depression follows every insertion of the tube. One young woman, under the writer's care, has spent from one to three days in bed after every seance, although the fact that she has realized the subsequent benefit and has persisted in some twenty repetitions of the local treatment, shows how far her case is from hysteric dread and exaggeration.

So far as the writer's experience goes, the only patients who entirely outgrow their aversion to the tube are such as are compensated for a boil by the pleasure of opening it, and who quite enjoy all sorts of self-experimentation. It is in just such cases that the physician should be particularly reluctant to use the tube more than is absolutely necessary. Without recourse to memoranda, three patients may be cited who have discontinued professional treatment for the sake of self-management with the stomach-tube. Judicious treatment might fairly be expected to cure two of these, and to relieve the third (a case of marked dilatation and quiescent ulcer, the latter probably being situated at the pylorus and causing the dilatation). Two of

these patients are much emaciated, in all probability because the first indication of digestive disturbance is met by withdrawing the stomach-contents. Even normal gastric digestion includes a preliminary hour in which the organic acids are formed and in which yeasts and bacteria have some degree of activity; it is better to endure a prolongation and exaggeration of this normal period than to empty the stomach too often.

Medical reports frequently mention the treatment of cases of stagnation by the daily withdrawal of food-remnants. Granted that lavage is practiced long enough after a meal to allow as perfect digestion as the stomach is capable of performing, we may well ask whether a stomach in so serious a condition would not be benefited by a complete rest for a few days, while nutrition is carried on by the rectum.

The writer's rule, subject to occasional exception, is to pass the tube at intervals of from three to five days at first, gradually lengthening the interval to a week or ten days, and when the last period is reached successfully, to expect that only a few "p. r. n." seances will be needed. In mild cases one diagnostic and one, therapeutic passage of the tube often suffice to start the patient on a line of rational treatment that involves no interference with nutrition.

In summing up, the writer may be pardoned for imitating a style that has become popular on account of its terseness.

1. Don't use the stomach-tube simply because you want to be considered scientific and "up-to-date."

2. Don't withdraw stomach-contents for examination unless you are prepared to examine them.

3. Don't discard external means of physical diagnosis because you have a stomach-tube.

4. Don't expect too much from diaphanes, electric buzzers, buckets, complicated tubes, etc. All of these have their uses, but in general they are available in very rare cases.

5. Don't pass the tube without first inspecting the mouth and throat and examining the heart and arteries, and at least in-

quiring as to pregnancy, piles, and other possible contraindications.

6. Don't pass the tube as a means of treatment unless you know precisely what you want to accomplish with it.

7. Don't introduce a weight and bulk of water which you would consider injurious if swallowed. As a rule, don't introduce more than a pint at once, and almost never more than a quart. Don't be deceived by the ball-valve action of a particle of food or any other cause which may allow water to remain in the stomach. Make sure that you withdraw as much as you introduce, except that you may allow a little for leakage through the pylorus, or possibly absorption. Remember that the more a stomach can hold the less it ought to.

8. Don't imagine that the gastric douche will cure all of the diseases of the stomach; you would laugh at a gynecologist who held such a view about the vaginal douche.

9. Don't imagine that a stomach is doing well till it can digest plain but varied diet without mechanical interference. Don't speak of a case as cured till the patient can indulge in all the ordinary food without medical aid and without injury.

10. Don't let the patient learn to pass the tube himself. This rule holds for his benefit as well as yours.

11. Don't fail to use the tube or to have it used when the indications outweigh the contraindications.

Garrine

Garrine is an alkaloid discovered by Armendariz (*Apoth. Ztg.*, Vol. XIII, p. 178) in the bitter bark of *Garrya racemosa* Ramirez, a Mexican corneaceous plant. It is crystallizable, is odorless, very bitter, and readily soluble in water and in alcohol. Nitric acid colors it pink. It possesses the property of increasing the number and depth of the respiratory movements; an intravenous injection of the decoction of the bark may cause death by paralyzing the respiratory centers. The drug acts also on the digestive tract as a bitter tonic. It has been employed in atonic diarrhea, in the form of tincture, teaspoonful doses being given thrice daily. It is best exhibited, however, in the form of its hydro-alcoholic extract in pills containing 0.1 gme. (1 1-2 grn.) each. F.

SELECTED PAPER

PLEURAL EFFUSION *

By T. LAUDER BRUNTON, M.D., LL.D., F.R.S., F.R.C.P.,
Physician, St. Bartholomew's Hospital, London

WE have had in the wards lately a large number of cases of pleural effusion. I have before me the notes of no less than sixteen cases. It is obvious that I cannot enter into the details of all these, but can only take from them such points as I think may be useful and interesting to you.

It is always advisable, I think, to trace symptoms back as far as we can to their cause, and find out why a given occurrence

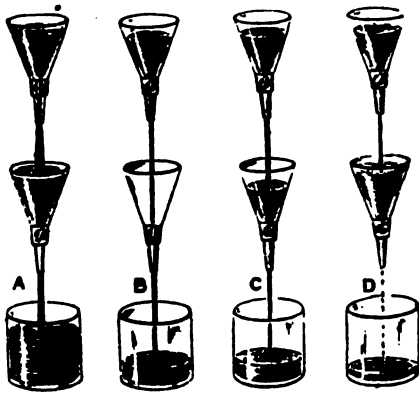


Fig. 1.

takes place. A collection in the pleural cavity occurs just as a collection of fluid does elsewhere, for the very simple reason that more fluid is poured into it than passes out from it in a given time (Fig. 1, D). If a quantity of liquid be poured into a funnel, care being taken not to pour it in more quickly than it can run out, no fluid will accumulate (B); but if the fluid be poured in more quickly than it can run out (A), or if the rate at which the fluid can run out be lessened, accumulation will occur. An accumulation of fluid in a serous sac, such as the pleural cavity, may take place, either by an increase of the rapidity with which fluid is poured in, or a decrease of the

rapidity with which fluid is absorbed, or by both at the same time (Fig. 2).

Now, as you know, the pleural cavity in healthy men is not a cavity at all. It is called a cavity, because it can be made into one, but it is not a cavity in the ordinary sense of the word, for the costal and the visceral pleuræ come close together without leaving any space between them. Their surfaces are kept moist by a certain amount of serous fluid. In order to keep this serous fluid fresh, a little is poured out and a little is absorbed regularly; so that, although there is only a very small quantity, just enough to moisten the surface of the pleuræ, yet this is constantly renewed. The way in which it is renewed is this: The lymphatics take up from the pleuræ the fluid which is poured into them from the blood-vessels. The lymphatics are perhaps more easily shown in the central tendon of the diaphragm than they are anywhere else; and a beautiful injection of the lymphatics in the central tendon of the diaphragm may be obtained by taking a dead rabbit, cutting it across the middle of the abdomen, and suspending the upper part of the body in the way you see here, so that the diaphragm forms a sort of hollow cup, with its concavity directed upwards. Then, if some Berlin blue be poured in, and the movements of artificial respiration be kept up in the lungs, so that the diaphragm be kept constantly moving up and down for two or three hours, the Berlin blue becomes taken up, and passes into the lymph-spaces; so that a most lovely injection is frequently obtained. Our experiment this morning has not succeeded so well as many that I have tried; but you can see that some of the Berlin blue has been taken up. There may not unfrequently be seen in the central tendon a most lovely radiating structure, the blue representing the lymph-channels; and it has been found that in the diaphragm there are certain stomata, or openings, very much resembling those found on the under surface of leaves (Fig. 4). Through these stomata the particles of Berlin blue are taken up, and the use of these particles is to show where the fluid has gone; without their presence we could

* A Lecture delivered at St. Bartholomew's Hospital.
From *Edinburgh Medical Journal*.

not trace the fluid. By the same means we are able to trace the passage of fluids from the pleural cavity into the lymphatics, and it has been shown (Fig. 5) that in the interspaces between the ribs, on the inner side of the thoracic wall, the lymphatics are to be found in great abundance. And if a section be made of the pleura, the lymphatic spaces are seen to present very much the appearance which I show you in the diagram (Fig. 6). These lymph-spaces are kept in a state of movement during ordinary respiration, and every breath that is drawn has a pumping action upon the pleura; so that the more a man breathes, and the more the fluid is poured out to keep the lungs well lubricated, the more rapidly is the fluid pumped up from the pleura into the lymphatics of the chest, and so into the general circulation. Perhaps this fact does not bear so much upon the cases that we are going to deal with first; but it does bear to a very great extent upon one of the cases at least that we shall have to take into consideration later on, namely, the effusion of fluid into the pleural cavity in the later stages of heart-disease.

Now, in ordinary acute pleurisy, it would appear that the cause of the effusion is rather that fluid is more quickly effused than that absorption is diminished. In order to understand how this effusion of fluid takes

the capillary; and the cells, when the capillaries are not dilated, are in constant contact with one another; but if the capillaries are dilated, they are drawn apart from one another; so that one can readily see why

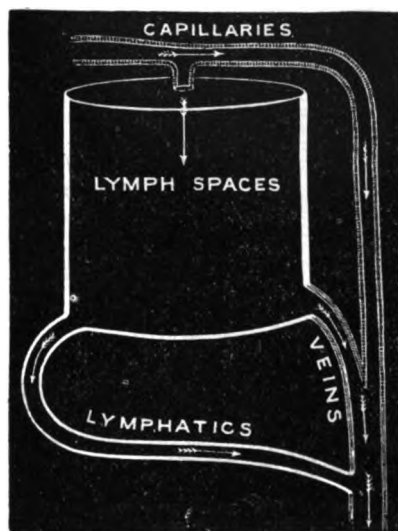


Fig. 2.—Diagram of the relations of lymph-spaces and blood-vessels.

fluid should pass out quite easily from a dilated capillary. In fact, the puzzle is, if the capillaries are dilated, and the edges of the endothelial cells are drawn apart, why does not the whole of the liquid in the capillaries leak out? The reason alleged is that the outer part of the cell consists of

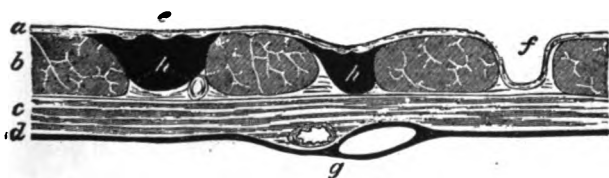


Fig. 3.—Section of the central tendon of the diaphragm in the rabbit. *a*, peritoneum; *b*, tendinous fibres in cross-section; *c*, circular fibres; *d*, the pleura; *e*, peritoneum stretched over a full lymph-space; *f*, peritoneum lying in an empty lymph-space; *g*, blood-vessels.—After Ludwig and Schweigger Seidel.



Fig. 4.—Epithelium of diaphragm, showing stomata.—After Ludwig and Dybrowsky.

place, we have to take into consideration the blood-vessels from which the fluid passes out. You know that the capillaries consist of numerous cells, closely applied to one another so as to form a complete ring. These cells, however, have been stated to consist of two parts. A sort of ground substance is said to lie next to the lumen of

protoplasm, and while the inner part of the cell may be drawn apart from its neighboring cell, leaving a gap between, the protoplasm, being elastic, tends to stretch; so that a layer of protoplasm renders the wall of the capillary still continuous even during dilatation. We have, however, a difference in filtration through the capillary wall

when it is in a state of contraction, and when it is in a state of dilatation. In contraction, we have a double layer of substances, the ground substance and the protoplasm in the capillary wall, through which

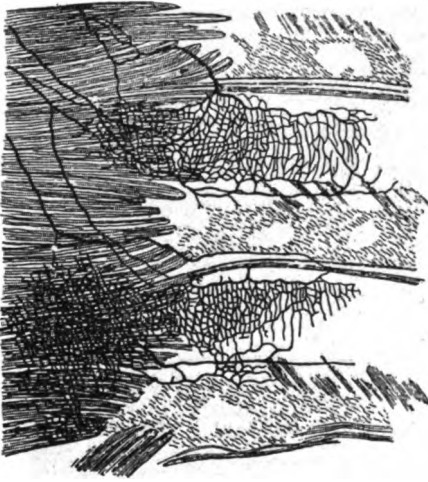


Fig. 5—Injected lymphatic net-work over the sternocostal and intercostal muscles of a dog. (Nat. size.)—After Ludwig and Dybkowsky.

the fluid must filter before it can get into the tissues below. But, in the state of dilatation we have only got the protoplasmic layer acting as a filter; and therefore as we can well imagine, not only is there likely to be a difference in the quantity of the fluid effused, but there is also likely to be a difference in the quality of the fluid effused from the capillaries into the tissues. Now,

pleura itself assumes a much more ruddy color than in the normal condition. At the same time, it loses its smooth polished surface and becomes slightly rougher, so as to present an appearance, not like a piece of ordinary window-glass, but rather like a piece of frosted glass, or glass upon which one has breathed. This process may not go on any further, and a retrogression may occur; so that the pleura may again return to its former condition without anything more happening. On the other hand, however, you may get the two surfaces of the pleuræ becoming adherent without the effusion of any liquid; but in many cases liquid becomes effused, sometimes to a very considerable extent. The liquid frequently is serous, and generally contains fibrin also. The amount of fibrin varies in different cases; sometimes it is very considerable, in other cases it is only slight. This fibrin, however, is frequently deposited upon the surfaces of the pleuræ, giving rise to a thick, rough, membranous-looking substance; and by and by, after the fluid has been absorbed, you may get a large thickened mass of fibrin between the two layers of the pleuræ, and in the interstices of this a quantity of fluid is frequently enclosed.

Now, one of the first causes of pleurisy may be injury to the side; a blow, or something of that sort. In one case we had in hospital, there was a certain suspicion of a

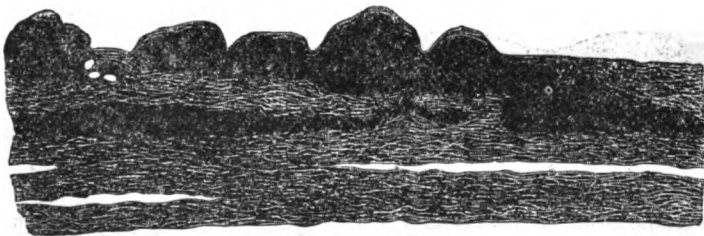


Fig. 6—Section of the intercostal pleura (300 diameters). The injected lymph-spaces appear black in the figure.—After Ludwig and Dybkowsky.

as you all know, one of the first circumstances that occur when the pleura is inflamed is that the capillaries become dilated; so that if the pleura be examined shortly after an irritant has been applied—and this can be done readily in the case of experiments on animals—it is found that the capillaries are much dilated, and that the

blow having originated the pleurisy, although it was properly aided by the effect of a chill. In many other cases, however, we find that a chill gives rise to the pleurisy, and we are not able, in some of those cases at least, to trace the presence of any other factor.

Many means have been tried of late years

to find out the presence of microbes in addition to the chill; for the presence of pleurisy has been looked upon as due to the microbes finding their way into the chest, and having their vitality increased, or rather, perhaps I should say, their power for mischief increased, by the vitality of the tissues of the pleura being lessened by exposure. I do not think, however, that this has certainly been proved, and I think in the meantime we may assume that pleurisy may be due simply to the effect of chill. The place where the chill is very likely to take effect is just the place where you would naturally imagine it, namely, that part of the chest that is not well covered by muscle, just between the latissimus dorsi in the back, and the pectoral muscles in front. A chill may take effect much more readily here than in those parts which are better covered.

The symptoms that we get after exposure are that the man gets a rigor, or shiver, but instead of my detailing the symptoms to you in a general way, I may perhaps simply read a case to you, because I think you will find the symptoms all beautifully given in it. We will take the case, for example, of John R. He was admitted on February 19, 1896; his age was 35, and he was a furniture porter. The history of the case is, that he was well till fourteen days before admission; then one day, while at his work lifting furniture, he became very hot. When he got home he felt very chilly and began to shiver, but there was no very distinct rigor. The same evening he was seized with pain in the right side, and a cough. The pain was very much worse whenever he took a breath, or when he coughed. Notwithstanding this pain and the cough, he continued to work for two days, and then he stayed at home for five or six days, not going to bed, but simply sitting about the house; and he attended at the surgery here for a week. The pain which seized him so violently at first had almost gone for the last three or four days before admission. When he was admitted his respirations were 36. He lay upon the right side, the side in which he had had pain, but from which the pain had now

gone. He had a troublesome cough, but no expectoration. On examination of the chest, the movements of the right side were deficient; the vocal vibration was nearly absent, and, behind, the vibration was absent also. The breath-sounds were very much weaker on the right side; there was slight bronchial breathing at the angle of the right scapula. The percussion-note was nowhere resonant, and there was absolute dullness all over the region below the third rib in front, and below the spine of the scapula behind. The pulse was 100 and regular, the apex-beat was in the fifth space; but whereas it ought to have been about half an inch to the inside of the nipple-line, it was in the nipple-line; it was therefore displaced outwards. I should also mention that *e*sophony was found opposite to the angle of the scapula on the right side.

In this case, then, we had a history of pleurisy. There was the cough, the pain in the side, and also the raised temperature. The pain had disappeared, and we found on admission dullness on percussion—dullness of an absolute nature—over a great part of the right side; the breath-sounds almost absent, and the vocal fremitus almost, or entirely, gone. These, then, were the signs of pleural effusion. The disappearance of pain pointed to effusion, for at the beginning of the disease the two surfaces of the pleuræ had rubbed against one another, giving rise to pain, but as the fluid became effused and the surfaces became separated from one another, so that there was no longer any friction, the pain had gone. An exploring needle was inserted in the post-axillary line, in the seventh space on the right side; clear fluid was drawn off, and so an aspirating needle was put in at the same spot, and thirteen ounces of slightly opalescent fluid were removed. After the removal of this quantity of fluid, the dullness quite disappeared, the voice and breath-sounds came back, and the vocal vibrations could again be felt all over the right side; the temperature still remained up, but the respiration went down to 18, and both sides of the chest moved well. No evidence of reaccumulation occurred, and the man was discharged on April 22, quite well. After

the fluid had been removed there was a certain amount of impairment of percussion over the side of the chest, and there was also a slight increase in the vocal resonance, and the breath-sounds were of a slightly bronchial character. The reason of that simply was this, that probably the pleura was still somewhat thickened, and that the lung had not quite recovered its normal elasticity, or its normal spongy character, after the compression to which it had been subjected. In this case, then, we get an example of the signs of pleural effusion and the clearing up of the effusion after the great portion of the liquid had been removed by aspiration.

In another case, that of Walter E., we have also a typical example of pleurisy with effusion, but here there were one or two points that might be interesting to notice. He was well till March 5; then he got pain on respiration; he was short of breath. On March 9 he went to bed, and he was admitted on March 12 with respiration, 32; pulse, 96; temperature, 99°. All over the front of the chest could be noted a rough friction-sound, and what was also more interesting was, that over an area stretching about an inch and a half to the right of the sternum, a rough to-and-fro friction could be heard with every beat of the heart. So that at first sight it might have seemed as if the man had pericarditis as well; but when the lung diminished in size during expiration, this friction completely disappeared, again commencing at the beginning of inspiration. The reason simply was, as you can readily understand, that as the lung with its roughened pleura came across the heart during inspiration, the heart caused a rubbing on the pleura, and so gave rise to the rough to-and-fro friction. Sometimes it is rather difficult to make certain as to whether these frictions are pleural or pericardial, but if that friction had been pericardial, it would have continued whether the lung were inflated or not. In this case aspiration removed three and a half pints of clear fluid, and as the side still remained dull after this quantity had been taken away, the chest was again tapped, and rather more than three and a half pints

were removed; so that, altogether, seven and a half pints were removed from the chest.

Then we have got one case to which I may refer, of empyema, in which a child *æt.* 22 months was admitted into "Elizabeth" Ward, and in this case the whole of the chest on the left side was completely dull. But not only was there dulness over the whole of the left side, there was a dulness where no dulness ought to have been—a dulness extending not quite to the right nipple, but still quite to the parasternal line. In this case the heart had been displaced very considerably to the right. An exploring needle showed that pus was present, and as pus is not readily removed by simple aspiration, especially in children, in whom the intercostal spaces are so small, a part of the rib was excised, and sixteen ounces of pus were removed, which is a considerable quantity for a child 22 months old. A drainage-tube was then put in. The child did very well, excepting now and again when the exit of pus seemed to be interfered with, and then the temperature rose at once; but whenever the pus got free exit again the temperature came down. It would seem from this case that pus, if retained at all, has the power of raising the temperature to an extraordinary extent. What the exact constituent of the pus is, I do not think we know at present, but there can be little or no doubt that pus does raise the temperature. The opening of the chest-wall gradually healed up, and the child, which was admitted on November 14 with this large amount of pus in the chest, was dismissed on January 27 quite well.

In another case of empyema we found that, instead of our having to empty the chest artificially, the chest had emptied itself, because in the case of Edward B., *æt.* 35, he brought up nearly a quart of pus on April 12, about a fortnight before admission. On admission, there was dulness over a considerable area in front; the dulness reached to about the same height behind, and I thought very likely that some pus was still present, but on putting in an exploring needle no pus was to be found. Probably there was no longer any free pus

present, but only thickened pleuræ with thick fibrous adhesions, and although there might be a little pus in the interstices of the fibrinous matters, yet no pus was free and none could be removed.

Then there was another case of a boy, æt. 8, who on April 7 got his feet wet and had a rigor. On May 15 he brought up a pint of pus, and on the 16th he brought up a cupful more. There was no definite sign at all in this boy's lung, excepting that there seemed to be a little dulness just below the angle of the right scapula. I thought possibly there might still be some pus there. A needle was put in, but nothing came out, and we have not been able to find any indications of any pus remaining behind, so that in this case the empyema seems to have cured itself by the whole of the pus being ejected through the lung. Then we have some other cases in which the effusion into the pleural cavity has not come on in healthy individuals as in those already discussed, but in persons suffering from other diseases. In the case of Edward S., salesman, the pleural effusion came on in the course of cirrhosis. He had been subject to a cough during the winter for several years. Three weeks before admission he got a pain in the left breast, and the pain was much worse whenever he coughed. On examining the chest, it was found that there was dulness in the left back up to the sixth rib. There was no cardiac murmur, but the liver was enlarged, firm and hard, and there was a cloud of albumin in the urine. He was admitted on March 19, and on March 20 the pleural cavity was aspirated and thirty-one ounces of serum were drawn off. This eased the condition to a certain extent, but it did not cure him in the same way it cured the others, in whom the disease was uncomplicated. More edema of the legs set in, the surfaces became cold; there was some cyanosis, and on April 3 the patient died; death being caused, not by the pleural effusion, but by the dropsy due to the liver and to the condition of the kidneys, as well as to a feeble heart.

In the last case that I shall take up to-day, the effusion into the pleura occurred as a complication of heart-disease. This

is the case of Daniel M. He had a double aortic murmur, and also mitral regurgitation. He had been well until the beginning of March, when his feet began to swell. He then got shortness of breath, and went steadily downhill. He had a large amount of dropsy in the legs, and no less than thirty-two ounces of fluid were removed from the legs by the introduction of Southey's trocars. This eased him a good deal, but he went on getting worse, and finally died. On post-mortem it was found that there was a good deal of fluid in the chest, and this leads one to note that not unfrequently, on post-mortem examinations, fluid is found in the chest when no fluid is noted as having been present during life. Now, you can readily see why this should be the case. A patient is dying of heart-disease, and you find that, in spite of everything that you can do for him, he seems to be steadily getting worse and worse. You do not feel inclined to trouble him very much by making him sit up, so that you may auscultate and percuss the back. Moreover, in private practice more especially, you may find that not only are you unwilling, but the patient himself objects and the friends object; and they say: "The doctor is making the patient sit up and doing him harm, simply for the purpose of satisfying his own curiosity." There is therefore a great temptation to allow the patients to lie quiet and not disturb them when they are dying of heart-disease; and yet perhaps, in many instances, we ought to make them sit up, or at least to lie round on the side; so that one could examine the chest, because even although one might not be able to save them, one might be able to prolong their lives by aspirating the chest and removing the fluid which was accumulating.

I mentioned at the beginning of my lecture that the bearing of the experiment that I wanted to show you upon the accumulation of fluid in the pleural cavity had more to do with the accumulation consequent on heart-disease than on the accumulation which occurs after an acute attack of pleurisy. For you can easily understand that if you have got a heart failing, the valves of the right ventricle become incom-

petent, and backward pressure upon the capillaries everywhere, you are likely to get an accumulation of fluid, not only in the lungs, but in the pleural cavity. You are likely to get a larger secretion of fluid, and at the same time a smaller absorption of fluid. Moreover, the very illness of the patient which makes him lie quiet on his back, preventing him from breathing deeply, tends to stop those very movements of the chest-wall, which, as Ludwig and Dybrowsky have shown, tend to cause an aspiration of liquid from the pleural cavity; and in this way you are apt to have the last stages of heart-disease accompanied by effusion into the pleural cavity. In another case that occurred in "Elizabeth" Ward, there was a small quantity of fluid effusion from the left chest. This also tends to show that one must be very careful in examining, as far as possible, the chest in cases of heart-disease. You will remember that in most of the text-books it is stated that very many cases of heart-disease in the end have their course quickened by the accumulation of fluid. Now, there are one or two points that will not take more than a minute or two to bring before you, and they may possibly be useful to you.

In most of these cases, where the pain is great, you will find that putting a few leeches on the surface tends to ease the pain, but not invariably. One of these cases I have alluded to was not relieved, but in many the pain was rapidly relieved by the application of half a dozen leeches. Half a dozen, more or less, is an average number, but if the pain is severe, a dozen will lessen it, one might say, in almost a miraculous way. I remember seeing one private case, in which every breath that the patient took terminated in a shriek. The pain was so excessive that each time that the breath was taken it was not passed out again as ordinary respiration, but simply came out as a shriek, and the scene was a most painful one to behold. After the application of twelve leeches the pain disappeared completely. I daresay some of you have had occasion to watch the disappearance of pain in the hospital under the application of leeches. I do not know exactly how leeches do act, whether it is

simply by abstraction of blood or not, but that they do relieve there can be no doubt.

As far as medicine is concerned, in most of the cases we have used very little medicine. The chief medicine was the very old-fashioned drug, acetate of ammonia, which has the power of lessening the temperature by increasing the sweat; but it does not pull down the temperature in the same way that the more modern drugs, antipyrin, phenacetin, and antifebrin do, and so there is little or no risk of its having any effect in causing collapse. Ammonia, *per se*, is to a certain extent a respiratory stimulant, although its effect as such is not so well seen in the acetate as it is in the carbonate. In cases where the respiration tends at all to fail, then you may give the carbonate of ammonia; and you may even proceed to give such a drug as strychnine, but in most of the cases of simple effusion we have not used this. In the cases of effusion in cardiac diseases, you have recourse to a great number of drugs. You may give strychnin and caffein and digitalis, or other cardiac stimulants and tonics, and it may be necessary also to remove the fluid from the chest as well.

Dangers of Blisters

Huchard (*Bull. de l'Acad. de Méd.*, No. 7, 1898) entertains the following opinion concerning-blisters:

1. They often produce an open wound, which facilitates secondary infections or the absorption of cantharides.
2. Besides tending to cause inflammation of the kidneys and bladder, they have a general congestive action.
3. Even in those diseases where they are most frequently used, such as pneumonia and pleurisy, they should be discarded, because though they increase pulmonary ventilation, they increase also pulmonary congestion.
4. Blisters tend to arrest excretion by the kidneys, so important in all infectious diseases, and this is especially harmful in those normally causing albuminuria. Instead of aiding the excretion of toxins, blisters are likely to produce a fresh intoxication.
5. The only real use of blisters is in their revulsive and analgesic action, but this effect is better attained by less dangerous means, such as mustard plasters or cold baths.

F.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Auricular Vertigo Due to Foreign Body 30 Months in Auditory Canal

Bul. méd. (No. 11, Feb. 6, 1898, p. 124) takes from *Anjou méd.* (Jan., 1898) this interesting case: A child of 8 began to spread his legs while walking, to hold himself stiff while running, and to fall suddenly without apparent cause. The condition grew worse, so that the child feared to go alone, being sure to fall when without support. M. Cerf, who first saw him, noticed the child's short, dry cough, and diagnosed vertigo due to Fox's auricular cough, though the parents said the child had never had ear-trouble, nor complained of the ears, nor had running of the ear on that side. Hearing was intact on both sides; no buzzing; left ear normal; right did not tolerate examination without cough. The syringe washed out three pieces of gravel, which recalled to the parents that a companion had thrown sand into the child's face thirty months previously. All symptoms disappeared after removal of the gravel. H.

Elimination, by the Skin, of Bacterial Toxins—Tuberculin in the Sweat of Tuberculous Patients

The *Lancet*, Jan. 15, 1898, has an account of some interesting experiments by A. Salter, in which he collected the perspiration from phthisical patients in capillary tubes and injected it in quantities of 3 to 7 c.c. into guinea-pigs previously inoculated with virulent living cultures of tubercle bacilli. The characteristic reaction produced by Koch's tuberculin was here brought about. When the sweat used was taken from persons not tuberculous the reaction was not produced. The inference was that the sweat of tuberculous patients contained tuberculin, and that all treatment with atropine, picROTOXIN, and oxide of zinc to check perspiration in tuberculous patients was irrational. Rational treatment would encourage the perspiration by causing patient to wear flannels and have hot bottles near the person, the discomfort of the condition being met by sponging and renewing the clothing.

Similar experiments were made on mice and rabbits, animals particularly sensitive to pneumococcal infection, by injections of 0.5 to 1 c.c. of sweat from patients suffering

with fibrinous pneumonia. The animals were made very sick with symptoms of septicemia. When injections of sweat from healthy persons were used they were well borne.

The author experimented on two guinea-pigs with sweat from children suffering from diphtheritic croup. They weighed 220 and 260 grammes, and received respectively 4 and 6 c.c. of this sweat. Both showed the characteristic gelatino-serous infiltration at the point of inoculation, which was not produced by sweat from healthy subjects.

A similar experiment with the sweat of a tetanus patient gave negative results.

The experiments confirm the value of sudorific treatment of infectious fevers.

H.

The Bone-marrow of Cancer Patients

As the author states, the study of the changes in the bone-marrow of cancer patients is interesting mainly from two points of view. The first of these is concerned with the question of secondary deposits, which have an important bearing on the development of the cancerous cachexia, on recurrence after operation, and other matters of great importance. The second will prove of more general interest, for changes in the marrow having been shown to take place in several conditions of profound anemia, we may reasonably expect to find something similar in the anemia of cancer.

In a number of cases examined (fifteen), the author, F. Villy, in *Jour. of Path. and Bact.*, Vol. V, p. 69, 1898, shows that, as a rule, the insidious "medullary infection" may occur, but it is not a routine event; that it has no special mechanism or significance when it does occur; that it is not the main cause of cancerous cachexia, or of "fragilitas ossium," and that the bone and other pains of cancer patients may have several causes, among which secondary tumor-formation is not the common one.

J.

The Treatment of Goiter in the Newborn with Thyroid Extract Administered to the Mother

At the meeting of the Paris Academy of Medicine, April 12, 1898 (*La Méd. mod.*, April 13, 1898, p. 240), Dr. Mossé reported the following case: The mother of the child, 22 years old, was in splendid physical health, but very feeble intellectually. She had a very large goiter, but no trace of myxedema. The child was 3 months old, breast-fed, and also had a large goiter, and was very puny and cachectic. The mother

was given thyroid extract, the daily dose corresponding to 24 grn. of fresh thyroid. In six weeks the goiter in the woman was considerably diminished, but more remarkable was the diminution of the goiter in the child. The general condition became also much better. In two months more the tumor in the child disappeared entirely and from the miserable, puny creature that it was before the treatment, it became a beautiful, plump child. The goiter in the mother also became equally diminished. According to the author this is the first instance of the transmission of the effects of thyroid treatment from a mother to a child through the medium of her milk. R.

Diuretic for Children

Dr. Comby recommends the following (*La Méd. mod.*, Vol. IX, p. 53):

Potassium Acetate	} of each 15 gr.
Potassium Nitrate	
Oxymel of Squill.....	} of each 2 ½ dr.
Comp. Syr. of Sarsaparilla	
Infusion of Juniper-berries (from ½ oz.)	} ¾ oz.

To be taken during the day.

R.

Thermic Fever in Infants

J. Zaborsky (*Pediatrics*, Vol. V, No. 4, p. 143) offers an instructive paper on the subject, recent observations having convinced him of its frequency and importance, though its existence is seemingly doubted by many authorities. Occasional cases of thermic fever are reported, but they seem to be overlooked by most physicians, being regarded by the latter as rare curiosities, or more frequently expressing a doubt as to the diagnosis by pointing out that gastro-intestinal toxemia had not been excluded. Altogether about forty cases of marked thermic fever were noted in the foundling institution the past summer, four cases proving fatal. The writer is of the opinion that the inanition fever described by Holt has its origin in overheated rooms and an insufficient supply of water, being thus a true thermic fever. An external temperature of 90° to 95° F. frequently causes a febris neonatorum, or at least taxes the heat-regulation to its utmost, in order to maintain the physiologically thermal equilibrium. The air and objects, therefore, surrounding the infant should never be over 90° F., while 75° to 80° F. when the infant is clothed are temperatures to be preferred, the question of air-currents and radiating surfaces naturally being taken into consideration.

As to etiology, the predisposing causes are classified as autogenetic and heterogenetic, the former having their origin in the infantile organism, the latter in its surround-

ings. Diminished heat-dissipation is frequently due to the administration of too little water. The loss of water by increased evacuations, such as diarrhea and vomiting, are processes which, by abstracting the necessary water from the tissues without cooling the body, are to be regarded as exceedingly dangerous factors. Excessive amount of clothing by diminishing radiation and a constant dorsal position, which prevents about one-third and sometimes one-half the infant's surface from participating in the heat-dissipation, are factors in causing an increased temperature. Experiments on animals have repeatedly shown that immobility in a hot air or exposure to the sun will much sooner affect the temperature than a certain amount of motion, the quietude of night increasing the former. Overcrowding and a high relative humidity by preventing evaporation act as causative agents. From the recent investigations of Van Gieson, the theory of auto-intoxication has received strong support, he reporting to have found extensive parenchymatous degeneration of the neurons throughout the nervous system; the blood having also been found more toxic, and human perspiration on very hot days possessing greater poisonous properties. Mild thermic fever is not distinguishable from other simple fevers; the absence of pain, however, differentiates it, in great measure, from fever due to gastrointestinal infection. No characteristic symptoms are present, the diagnosis resting on the existence of predisposing and exciting causes. As regards treatment, the indications to reduce the fever must be met promptly—sponging of the body, baths, the administration of cool water, stimulants, etc. L.

Gastric Catarrh

In order to determine the pathology of gastritis, Dr. P. M. Popove (*Zeits. f. klin. Med.*, Vol. XXXII, Nos. 5 and 6) produced artificial gastritis in six dogs by means of corrosives such as phosphorus, bichloride of mercury, croton-oil, etc. He then examined the contents of the stomachs while the dogs were living, and after their death he made a careful microscopical examination of the mucous membrane. By so doing he learned that there are two varieties of gastritis: parenchymatous and interstitial. The parenchymatous form consists in a hyperplasia of the parietal cell with fatty degeneration and destruction of the principal cells, congestion of the peptic glands accompanied by hypersecretion. The interstitial form he found to present the above phenomena in a much more marked degree, excepting that there was subacidity

instead of hyperacidity, a symptom which resulted from pressure exerted upon the peptic glands by the excessive hyperplasia. This finding explains why gastric hypersecretion is lessened in cases of ulcer of the stomach of long standing. Scirrhus cancer is, as a rule, less apt to be accompanied by acidity than any other form of carcinoma, owing to its greater tendency to infiltrate and compress the gastric glands.

S.

Food for Convalescents

According to Dr. Keen (*Dung. Coll. and Clin. Rec.*, Vol. XVIII, No. 12), an excellent, palatable food for convalescents is made as follows:

Whites of three eggs.
Lime-water.....3 oz.
M.—Shake for from three to five minutes; then add milk.....½ pt.
Shake for five minutes and flavor with sugar and sherry. L.

A Contribution to the Study of Juvenile Warts

Giuseppe Lupis (*Giorn. Ital. delle Mal. Ven. e della Pelle*, 1897, Fasc. 4, 451) gives a summary of the treatment of this subject by previous writers. In two instances he inoculated himself with material from warts which gave negative results. A search for bacteria which might cause these growths was unsuccessful, as neither cultures nor stained sections revealed the presence of any organisms.

Histologically the wart is simply an increase in the size of the papule, the epidermic layers are increased and the normal exfoliation of the cells is decreased. The Malpighian layers are delayed in cornification.

Treatment of Inoperable Sarcoma by Coley's Fluid

Mr. Mansell Moullin, in a paper read before the Harveian Society of London (*Brit. Med. Jour.*, Feb. 19, 1898), upon the treatment of inoperable sarcomata by means of Coley's fluid—the mixed toxins of the streptococcus of erysipelas and the *Bacillus prodigiosus* gave details of ten cases which had been under his care. In three the tumors disappeared and there had been no recurrence. In another the original growth, a spindle-celled sarcoma of the superior maxilla, was entirely absorbed, but meanwhile a secondary growth developed on the head of the tibia, and in a fifth the tumor, which was a slowly growing sarcoma, diminished in size, but only for a time. Of the remaining five, two—a recurrent carcinoma of the breast and a lymphosarcoma of the neck—

were not benefited in the least. A third patient refused further treatment after two injections, and two had died.

The author suggested that the following conclusions—though some of them might require modification later—were justified by the facts that he had brought forward:

1. It could not be denied that there was a considerable number of cases in which sarcomata that had been given up as hopeless, often after repeated operations, had absolutely and entirely disappeared under this method of treatment. There was no other treatment—except infection with the streptococcus of erysipelas itself—of which this could be said.

2. Some of these cases had remained free from recurrence for upwards of three years, the period which, in the case of excision of the breast for scirrhus, was regarded by many operators as justifying the use of the term "cured."

3. Several of the cases in which sarcomata had disappeared after an attack of erysipelas had remained free from recurrence for seven years and upwards.

4. The fact that there might be a very few cases recorded in which sarcomata had disappeared, either spontaneously or after such diseases as acute specific fevers, had nothing to do with these conclusions (the statement that sarcomata did occasionally disappear was repeated with great regularity, but well-authenticated cases in which this had taken place, verified in the way in which Coley's had been verified, were very difficult to find).

5. These conclusions were not in any way invalidated by the fact that injections of the toxins were sometimes followed by the disappearance of other growths such as lupus, keloid, syphilitic deposits, carcinomata, etc. It might make the disappearance of sarcomata more difficult to understand, but it has in no way disproved it.

6. The proportion of cases of sarcomata that were cured by the injection of mixed toxins depended, among other things, upon the histological character of the growths. Spindle-celled sarcomata were by far the most successful. This suggested the conclusion that the mixed toxins had a selective action, even if it was not specific.

7. The disappearance of sarcomata was not due to inflammation, but to an intensely rapid form of fatty degeneration, comparable only to that which affected the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they did occur, were septic complications.

8. Degeneration and absorption might occur whether the toxins were injected directly into the tumor or into some distant

part of the body. In the former case, however, the effect was more rapid and the constitutional symptoms severe.

9. The method was attended with considerable degree of danger. It should, therefore, be adopted only in those cases for which there was no other remedy. The chief risk appeared to be from collapse and pyemia. There must always be danger of the latter if there was a suppurating or sloughing sore. It might be argued that patients whose lives were immediately threatened by a malignant growth would never be cured by any remedy that did not involve some degree of risk.

10. The toxins were no use unless the cultures were taken from a virulent case of erysipelas, or were made virulent by passing the streptococcus through rabbits.

11. The *Bacillus prodigiosus*, in spite of theoretical objections, had the effect of immensely increasing the reaction.

12. The effect was most striking in the case of rapidly growing sarcomata. Slowly growing ones appeared to have much more resistance. Probably this merely meant that masses of embryonic cells, with little organization, gave way to injurious influences more readily than those that were more closely knit together.

13. Patients often gained in weight and strength while under treatment.

14. Treatment should be continued until the growth had vanished, or until it had become so small that it could be removed.

15. If there was a recrudescence of the disease it did not follow that the toxins would be as efficacious the second time as they were the first. Whether this was the result of tolerance being established could not be said.

16. Recurrence in other parts of the body might take place after many years.

17. The severity of the reaction was very variable. Probably this depended upon the rapidity with which the injection was absorbed, rather than upon any cumulative action it might possess. G.

Hydroa Æstivale, with Hematoporphyrin in the Urine

McCall Anderson, in the *Brit. Jour. of Derm.*, January, 1898, gives the history of two cases of the above disease, occurring in brothers. Accompanying this eruption was the appearance in the urine of a Burgundy-colored pigment, free from proteids and iron, allied to urohematoporphyrin. The face, ears, and hands were affected by this eruption during the early summer, disappearing at the approach of winter. The eruption was preceded by itching and burning, followed in ten or twelve hours by the

formation of blisters varying in size from a pea to a crown piece. Cicatrization and contraction followed the rupture of these blisters, rendering it impossible to completely close the hand. During the attacks the urine was a light Burgundy red, becoming normal with the cessation of the eruption in the first case, but not in the second.

Disseminated Gangrene of the Skin

Audry, in the *Ann. de Derm. et de Syphil.*, No. 11, 1897, relates the history of a case of the above disease. A woman, aged 47, after recovery from seborrheic eczema of the face, suffered from extreme nervousness. She took internal doses of iodide of potassium, which produced a bullous eruption. A speedy cure followed the suppression of the drug. Two years later she took a preparation containing iodide of potassium for six months. At the end of this period she returned to the doctor with large ulcerations of the skin beneath the left breast in the left axilla, in the bend of the left elbow, on the scalp; and the most severe lesions were in the lumbar and perineo-crural regions. The ulcers were well defined, with slightly elevated borders. There was no affection of the mucous membranes. The patient's general health was bad, though the urine contained neither sugar nor albumin.

W.

Bronchial Infection and Emetics

Prof. Albert Robin pays high tribute to the value of emetics, especially of ipecac, in diseases of the bronchial tubes (*La Méd. mod.*, Vol. IX, No. 23, p. 177). We do not underestimate the great value of antiseptics, but we must acknowledge that some regions cannot be antiseptized. A thorough antiseptics of the intestinal canal is a dream. The only way to diminish fermentation in the intestines is to empty them by the means of a purgative; the only way to diminish fermentation and accumulated secretion in the bronchi is to empty them by means of an emetic. But the emetic does more than that: it actually diminishes pulmonary hyperemia; it modifies bronchial secretion, and increases the respiratory power of the lungs. In many cases in which the chemistry of the respiration has been determined, it has been shown that the patients inhaled twice or three times as much oxygen (exhaling a correspondingly increased amount of carbon dioxide) after an emetic than before. The fear of giving emetics to old people lest collapse or cerebral hemorrhage take place is groundless. The author treated many broncho-pneumonias in old people by the aid of emetics, and with the most happy results. Sometimes the act of vomiting

changes the entire course of the disease. The author gives several illustrations. One man, 35 years old, was suffering with broncho-pneumonia of grippal origin. Temperature 104° F.; intense dyspnea, marked cyanosis; pulse small, irregular. A fatal issue seemed near at hand. The author administered an emetic. That very evening the condition was markedly improved—temperature fell, pulse became better, respiration easier. In a few days the patient left the hospital perfectly well.

Another case was that of a man of 63, who had a severe broncho-pneumonia, whose sputum was full of streptococci; temperature 103.5°; dyspnea, etc. An emetic was ordered (ipecac, 24 grn., and tartar emetic, 5-6 grn.); the temperature soon fell to 100° F.; the dyspnea diminished; the expectoration came very abundantly but easily. In three days the man was practically well. But it is not only in acute cases that emetics are indicated. In chronic bronchial affections they also do excellent service.

After the emetic has produced its effects the author orders the following mixture as an expectorant and pulmonary antiphlogistic:

White Oxide of Antimony.....	15 gr.
Tr. of Aconite Root.....	20 drops
Tr. of Belladonna.....	10 drops
Tr. of Nux Vomica.....	10 drops
Syrup of Ipecac.....	½ oz.
Syrup of Opium.....	½ oz.
Infusion of Linden-flowers.....	5 oz.

S.—Tablespoonful every hour. Discontinue in case vomiting occurs.

The author says, though he is offering nothing new, it is nevertheless well to emphasize some old well-known facts. R.

Quinine in Malaria

Dr. J. S. Van Marter, Jr. (*North Carolina Med. Jour.*, Feb. 5, 1898), considers there is a vast difference between the action of quinine in the intermittent malarial fevers and its action in the continued malarial fevers, the "malaria subcontinua typhoidea" of the Roman school, the malarial cachexia and the debatable *terra incognita* of malarial toxemias seen in hot paludal countries.

The writer agrees that Osler, Thayer, Councilman, and others in the North, speak truthfully when they say that quinine is a true specific against the malarial parasite and the malarias which have come under their observation, but as these gentlemen have not studied malaria in its true home, in a climate fitted for the development of the most virulent parasites, with infections occurring the year around, they are not fitted, by either experience or observation, to settle the question as regards the action

of quinine in the malaria that the author sees in the South. This applies to the entire region south of Charleston and the Gulf coast.

Dr. Van Marter tells us that in those who live in the regions infested by the severer varieties of malaria quinine cannot be taken indefinitely the year around in doses sufficient to kill the parasite as fast as it develops. Furthermore, there are cases innumerable in which the patient would die did we not add other potent drugs to our quinine, or, for a time at least, attach more reliance to other drugs than quinine, and one is inevitably led to the conclusion that although a true specific against the plasmodium of tertian and quartan fever, it is not a specific antidote to the parasite of the more severe continued malaria, and the toxins generated by them.

The author's conclusions are briefly summarized as follows:

1. As a preventive, quinine will not do for those who are compelled to live indefinitely in a severe malarial climate, in time acting as a vasomotor poison.

2. Quinine acts nearly as a specific in all malarial fevers characterized by intermissions or well-marked remissions, but fails in continued fevers, those with typhoid-like symptoms, those malarias without temperature, and the cachexias and anemias due to malaria.

3. Quinine is thus a poison to the plasmodium itself, but useless against the toxin manufactured by it.

4. In the last condition Warburg's Tincture has an action, not yet understood, on the toxin (or eliminative system) by which the system is put in condition to benefit by quinine.

5. Quinine should never be used in hemoglobinuria, or given subsequently, to one who has suffered from it, being liable to bring about a recurrence of the condition.

6. Only those living in regions of severe malarias can become competent to settle the question *pro* or *con*. G.

Arthritis Deformans Treated with Lactic Acid

Dr. Zolotorin (*La Méd. mod.*, Vol. IX) has used lactic acid in a case of ten years' standing. During the last year the patient had not been able to leave her bed. At first ten drops daily were given on an empty stomach, no food being allowed for an hour and a half afterward; gradually the dose was increased to forty drops a day. In three weeks the beneficial effects could be easily seen; the pains were much relieved, the woman could get out of bed and walk

a little, and the circumference of the joints was diminished slightly. The only external treatment was a slight massage; no other internal medicine was used. Improvement continued until the patient could walk without a cane and attend to her ordinary duties. R.

Prevention of Scarlatinal Otitis

According to Comby (*Aerzt. Rundsch.*, Vol. VII, No. 31), the best way to prevent the development of otitis during scarlet fever is to paint the pharynx with a solution of resorcin or naphthol-camphor. The resorcin, which it is best to employ in a 10-per-cent. solution, sometimes gives rise to oliguria, with green or dark coloration of the urine. The formula for the naphthol-camphor solution is as follows:

Betanaphthol.....	2½ dr.
Camphor.....	5 dr.
Glycerin.....	1 oz.

S.—For external use.

R.

Foreign Body in the Stomach

On making an autopsy, Prof. Hayem (recent meeting of the Société Médicale des Hôpitaux) found a very large soft mass in the stomach. A chemical examination showed that it was composed of butter, the formation of which the professor thought was due to the stagnation of the milk, which the patient had taken in very large quantities. R.

Catarrhal Jaundice in Children

Dr. Comby recommends the following treatment for this condition (*La Méd. mod.*, Vol. IX, p. 182):

1. Absolute milk diet.
2. Calomel, 1-6 grain three times a day during one week.
3. An enema every morning with warm water.
4. On discontinuing the calomel one powder, three times a day, of the following combination:

Sodium Bicarbonate.....	} of each 2½ gr.
Calcined Magnesia.....	
Benzo-naphthol.....	
Powdered Nux Vomica.....	

R.

Pathology of Graves' Disease

In a brief note in the *Jour. of Path. and Bact.*, Vol. V, p. 33, 1898, W. Edmunds discusses the relationship between compensatory hypertrophy following extirpation of portions of the thyroid gland, and the hypertrophy as seen in Graves' disease. His experiments were made upon monkeys

and his conclusions may be stated as follows:

1. The typical change found in the enlarged thyroid in Graves' disease is of the nature of a compensatory hypertrophy.
2. The parathyroids of dogs have as much, or more, to do with saving them from acute myxedema as the thyroids proper.
3. Although the extract from the thyroids of sheep may keep off and relieve the symptoms in thyroidless monkeys, it will not, as a rule, save their lives.
4. A parathyroid will not, by process of compensatory hypertrophy, develop into thyroid tissue proper. J.

Severe Laceration of the Perineum During Coition

Dr. Besdietnoff reports a case (*Vratch*, Vol. XIX, p. 334) in which a bride of 19 suffered a severe laceration of the perineum in the first attempt at coition. On examination the genital organs were found normal and fully developed, only the hymen was very thick and leathery; it was not perforated but torn for a short distance from the vaginal wall. The author says that while perineal lacerations are not rare in attempted rape on children, this is but the second case on record where such a laceration occurred in an adult female. R.

Salicin in Lupus Erythematosus

Dr. Radcliffe Crocker showed before the Dermatological Society of London two cases of lupus erythematosus, one cured and the other improved by the administration of salicin in 15-grn. doses three times a day (*Brit. Jour. of Derm.*, Jan., 1898).

Both were women over 30 years of age. The disease cleared off completely, only the malar eminences of the cheeks and the nose remained in a slight state of seborrheic congestion. There was very little scarring. Dr. Crocker does not claim that salicin cures every case, but that a great many are improved by it. W.

Leeches in Coryza

Dr. D'Ajutols (*Therap. Woch.*, Vol. IV, No. 31) recommends the application of leeches in acute coryza to the lower border of the nasal septum. He says that the headache and other disagreeable symptoms disappear quickly. The nasal cavity is first disinfected, then a piece of cotton is inserted (to prevent the migration of the leech), and after the removal of the leech the wound is covered with collodion. In the discussion which took place after the

reading of the paper the usefulness of the procedure was admitted, but fear was expressed that erysipelas might develop from the leech-wounds as a starting-point. R.

Peculiar Reflexes in Paraplegia

In the *L'Indépendance médicale*, 1898, No. 14, Dr. Senator cites an interesting case of paraplegia. In this there appeared to be a complete loss of conductivity through the medulla, with atrophic paralysis of the lower limbs, the bladder and the rectum being involved. There was also a loss of cutaneous sensibility. For thirteen years the case was under observation and the patellar reflex was maintained throughout and even exaggerated. J.

Incarcerated Hernia

In all cases of recent incarcerated herniæ Dr. Rubzow (*Medizinskol Obosrenie*, Vol. V, 1897) recommends the employment of warm baths (100 to 110° F.) for fifteen to thirty minutes and the hypodermic injection of morphine. The injection is given in the area of incarceration. The author treated seventeen cases in this manner, and fourteen of them were cured. R.

Hair- tonic

Dr. Eichoff (*Deut. med. Woch.*, No. 45, 1897) recommends the following formula, which he says is antiseborrheal, antipruritic, and tonic:

Capitol.....	} of each 15 grn.
Chloral Hydrate.....	
Tartaric Acid.....	
Castor-oil.....	8 drops
Alcohol (65 per cent.).....	3½ oz.
Spirit of Orange-flowers, a few drops.	

R.

Foreign Body in the Larynx

In the Berlin Medical Society Dr. Peyser demonstrated (*Berl. klin. Woch.*, No. 2, 1898) a piece of bone 4-5 of an inch long and 3-5 of an inch wide, which he had extracted from the larynx of a woman, where it had lain for four months in an unchanged position. Except some pricking in the throat and occasional dyspnea, the foreign body caused no symptoms, and the only sign left in the larynx was a very small scar. R.

"The Blues"

Dr. W. F. Waugh says that "the blues" are due to constipation and to a sluggish liver. Those who are subject to frequent visitations of that unwelcome guest should correct their diet and habits (*Tri-State Med. Jour.*, Vol. V, No. 1, p. 8), take little meat, milk, or coffee; plenty of fruits and fresh vegetables. Sugar is bad. A cold or salt

bath in the morning and a long, brisk walk or a bicycle ride are excellent means for dispelling the blues. Of medicines, a blue pill, a small does of aloes, or podophyllin are useful; but the sulpho-carbolates seem to come nearer to a "specific" in the treatment of the blues than any other remedial agent. R.

Albuminuria and Renal Disease

Dr. W. H. Porter (*Columb. Med. Jour.*, Vol. XX, No. 4, 1898) says that he had for a long time been of the opinion that there was no such thing as a physiological albuminuria. Much of the confusion regarding albuminuria had arisen from the tendency to think that we were dealing with serum-albumin. On the contrary, he is inclined to think that albumin found in the urine was an isomeric condition of the albumin as it existed in the blood, and that sometimes it might be one thing and sometimes another. We started always with the albumin as an alkali albumin, and it must be transformed into a peptone before it could get through the epithelial walls of the blood-vessels and into the blood. After having reached the blood it existed in three forms—serum-albumin, serum-globulin, and fibrinogen. The albumin in its transit through the body was constantly undergoing isomeric transmutations. Having gone through the body it came around a second time to the cells of the various glandular organs, and if the intake of albumin was not too great, and there was sufficient oxygen to enter the cells with the albumin, the proteid body would be oxydized in the cells of the liver and kidneys, and would be eliminated as were the ordinary catabolic products—the excreta of the body. But if the individual took more albumin than he could oxydize (e. g., in muscular albuminuria), the albumin could not be perfectly oxydized into urea, uric acid, creatin, creatinin, etc., and the protoplasmic tissue of the renal cells simply excreted that albumin as a catabolic excretory product. Looking at this subject from this standpoint, the albumin is not necessarily a forerunner of renal disease. Hence in people who eat more than they could readily oxydize, there might be for years a hypertrophic condition of the renal cells, allowing the excretion of the albumin, but not necessarily meaning that these individuals were going to have renal disease. The more the author studied these so-called temporary albuminurias the more he found that they were always associated with a clinical history of that kind. If this went on indefinitely, however, it must necessarily result in a degeneration of the kidneys. But

it was a condition, he believed, which could be easily arrested, provided we could control the habits of life of the individual. In many nervous people the albumin was not properly oxydized and hence was eliminated in the urine. In many of these instances, if the hypertrophic condition of the epithelial cells had not become too fixed, the condition could be completely cured, so far as the albuminuria was concerned. S.

Communications about Leprosy

In the *Münch. med. Woch.*, pp. 39 and 40, 1897, G. Stricker gives as the summary of a series of observations made upon leprosy in India and Egypt the following striking results:

1. The place of infection of leprosy is perhaps, without exception, the mucous membrane of the nose occupying the anterior chambers and that covering the cartilage of the septum. Leprosy affects primarily the nasal mucous membrane in much the same way as glanders. It is primarily a disease of the nose in much the same way that syphilis is a disease of the genitals or as tuberculosis is at first a disease of the apex of the lungs.

2. The place from which the greater number of lepra patients give off for the larger part of their illness, the specific agent of infection, is the nasal mucous membrane. In addition to this secretion, the sputum is to be borne in mind, also the moisture from the ulcers of the skin, but, from a practical point of view, these are of little importance. J.

Is Malaria Contagious?

Dr. Coronado (of Havana, Cuba), who has devoted considerable study and has written extensively on the plasmodium of Laveran, contributes a most interesting article (*Revista de Anat. Pat. y Clinicas*, Jan. 15, 1898) in which he asserts that paludism is contagious. The writer cites various clinical and bacteriologic facts in support of his statement. We may mention some of them: Among the passengers on a small coast-vessel running to Havana there were always some affected with malarial fevers. Shortly afterwards the robust sailors, who had never suffered from malaria, were stricken with the disease. In all these cases repeated examinations of the blood revealed the presence of the plasmodium of Laveran. Dr. C. believes that the transportation of numerous malarial-stricken persons served to convert these vessels into real foci, and this can only be realized in the presence of a contagious disease. If the known germ of paludism be-

came exhausted in the diseased organism, as has been supposed, the facts cited above would have no rational explanation. But these facts go to confirm what the author has already proven experimentally: that the dejections of persons suffering from malaria contain live germs whose existence may be easily demonstrated.

Another case cited by the author is as follows: A gentleman came to Havana from Matanzas suffering with malarial fevers, which were diagnosed by the examination of the blood showing the plasmodium. One month later a child 5 years old, sister of the patient who until then had been in perfect health, and who had never lived in a paludal district, presented a pure intermittent fever whose nature was confirmed by the examination of the blood.

Near a place called Candelaria there is a sugar-plantation where four families have lived for over twenty years without ever having suffered from paludal fevers.

Due to the reconcentration into the town of Candelaria many malarial persons of the surrounding towns and villages took refuge there. Soon afterwards various members of the four families referred to in the preceding paragraph began to suffer from various types of malarial fevers whose diagnoses were confirmed in the laboratory.

Now, the mode of living of these persons did not vary in the least from other times, the water which they made use of was the same. It was only necessary for some reconcentrados to come in contact with these persons to provoke paludism.

The author has frequently demonstrated the presence of the malarial plasmodium in the discharges and vomit of patients suffering with paludism, and this in the absence of hemorrhagic condition of the intestines or stomach.

The writer and others have proven repeatedly that plasmodia can live perfectly in waters which contain decomposing vegetable matter, as well as in sea-water. Moreover, Dr. C. has observed that even in well-diluted and sterilized broths the plasmodium may live, grow, and develop. Then, too, he says, that to realize the growth and development of uncountable number of germs, it is only necessary to mix a most minute quantity of blood—the tenth part of a drop—in a tube containing appropriate media. It will be seen, therefore, that the plasmodium of Laveran is a germ which may be reproduced with the utmost facility.

He has noted also the coincident development in the media employed, of the plasmodium, together with an *aspergillus* of a bright amber hue, when the implantation is

made in non-sterilized media. This is in concordance with the observation of other investigators with regard to the specific germs of other infectious diseases.

In concluding the author queries: Does the transmission occur by direct contact of the diseased with the healthy? He does not affirm this, but neither does he deny it. Nevertheless he states that all objects which are impregnated with the discharge or the blood of the patient, are converted into media of contagion.

The author formulates the following conclusion:

1. That paludism is an infectious disease produced by a known germ.

2. That the plasmodium of Laveran is produced outside of the organism of the patient and does not become exhausted therein as has been supposed.

3. That intravenous inoculation with the blood of malarial persons reproduces the disease in the healthy subject.

4. That paludism, like cholera, typhoid conditions, influenza, and other infectious diseases, should be placed in the group of transmissible or contagious diseases. G.

Influenza in Children

Dr. Fürst (*Deut. med. Zeit.*, No. 78, 1897) considers salipyrin one of the best remedies in influenza in children. For small children he prescribes 4 grn. per dose; for children from 5 to 10 years, 8 grn. per dose; and for children of 10 to 15 years, 15 grn. per dose. The dose is repeated three times a day. The salipyrin is best administered in some diaphoretic tea. R.

Post-typhoid Fever

J. M. Da Costa (*Phila. Med. Jour.*, Vol. I, No. 1, p. 22) refers to cases in which, after an attack of typhoid fever, the temperature, which may have been normal, rises again, and a fever of uncertain duration is found. The peculiar character of such cases consist in their being continuous, or nearly so, with the original attack; the temperature declines to the normal, but does not stay so; it goes up again, though not to a great degree, and remains up until all fever slowly passes away. In the fact that the fever follows almost at once the original febrile state, or follows it after brief interval, lies the chief difference between it and a relapse. In typhoid-fever relapses there are usually ten days or more between the first attack and the relapse. Moreover, there will be a return of the other symptoms, of the diarrhea, the swelling of the spleen, the eruption; the fever also showing a much higher temperature, one rapidly attained in the first few days of the

returning malady. The author believes it likely that many of the cases of typhoid of extraordinary length that have been recorded are instances of the morbid condition under discussion, though it must not be forgotten that very long cases of typhoid fever really occur—cases not only prolonged by complications, but also those in which the symptoms continue for many weeks, with constantly recurring outbreaks of the eruption. Finally, in determining that one is dealing with a case of post-typhoid fever, one must be certain that some local condition, causing a transitory rise of temperature, is not the true cause of the sustained temperature. L.

Earache and Discharging Ears in Children

Dr. Morrow (*Columb. Med. Jour.*, Vol. XX, No. 4, 1898) believes that the common cause of earache is an acute inflammation of the middle ear. In the very young child the trouble is often entirely overlooked until a discharge from the ear announces that the fever and pain have been of local origin in the ear (and not due to spinal meningitis, which it is so often mistaken for and closely simulates). Older children will locate the pain so that the trouble may be early cared for, and if properly treated, can often be quickly abated. It is safe to say that in all cases of recurring earache in children there is a predisposing constitutional cause, the strumous diathesis and inherited syphilis favoring the attacks. Locally as predisposing causes, inspection will reveal enlarged turbinated bodies, deviated septum, thickened pharyngeal walls, adenoids, or enlarged tonsils or a combination of any or all of these conditions. With these favorable predisposing causes every slight attack of cold in the head gives an exciting cause that brings on an attack of middle-ear trouble, with the accompanying earache. The epidemic of influenza during the past few winters has added greatly to the number of sufferers from this trouble. Teething is also an exciting cause. The eruption of molar teeth is sometimes preceded by purulent otitis media. It is well in all cases of earache to examine the mouth for decayed teeth or roots. In fact the intimate relation of the nervous supply of the teeth and ears should never be overlooked in cases of earache. Another frequent exciting cause is the entrance of cold water externally or through the Eustachian canal. Sea-bathing is a well-known cause of many ear-troubles, but it is well to know that water at any time is not well borne by the ear. It is well known that dogs taught to dive become deaf. It is well during the

time of year when children are going into the water to bear these facts in mind. Children should be forbidden to duck the head under water or they should be provided with non-absorbent cotton or wool to keep the water out of the external auditory canal.

Earache occurs also in the course of the acute infective diseases such as measles, scarlatina, diphtheria, whooping-cough, and in pneumonia, bronchitis, and spinal meningitis. S.

Intraocular Complications of Cyclical Albuminuria

As is well known, cyclical albuminuria has been usually considered a purely functional disease, without any morbid anatomy. Only lately some authors, such as Osswald, Gecorché and Tallman have begun to regard the affection as the first expression of an insidiously developing nephritis. The following two cases reported by Dr. F. Ortwalt, of Paris (*Wien. klin. Rund.*, Vol. XI, No. 41, p. 673), are calculated to throw some light on the obscurity in which the pathogenesis of this disease is still enveloped. The first case is that of a woman 32 years old, who consulted the author on account of repeated hemorrhages in the right eye. During the last seven years the patient had seven such hemorrhages. These hemorrhages would diminish her vision to such a degree that she would only be able to distinguish the movements of the hand. In the course of a few months the vitreous would clear up and the vision would become almost normal. The retinal veins of that eye were strongly dilated and tortuous. The urine was examined several times and found normal. As the patient showed not a single symptom of kidney-trouble, the author ceased to examine the urine; but about a year ago he again subjected it to a thorough analysis and found a large amount of albumin. Repeated examinations of the urine undertaken since then have established the existence of a cyclical albuminuria beyond the possibility of a doubt. The diurnal urine always contained albumin, the nocturnal never. Nor was there ever found a single cylinder.

The second case was that of a young man of 16 whose left eye suddenly became covered as with a veil. Examination disclosed haziness of the vitreous and a spot of acute choroido-retinitis. Twelve days after the appearance of the eye-symptoms, he got an attack of peripheral paralysis of the right facial nerve. Examination of the urine established the existence of a typical cyclical albuminuria. Both the eye-symp-

toms and the paralysis yielded to appropriate treatment in a few weeks.

From those two cases the author draws the following conclusions:

1. A vascular change certainly does play an important rôle in the production of cyclical albuminuria.
2. In many cases the changes in the vascular walls precede the albuminuria.
3. This vascular change may, in its turn, be the cause of a faulty metabolism (oxaluria, etc.).
4. On account of the functional insufficiency of the vascular walls, albumin passes into the urine as soon as the renal vessels are under unfavorable hydrostatic conditions, i. e., on standing and walking.
5. The vascular change may lead to pathological disturbances in other organs than the kidneys, such as epistaxis, retinal hemorrhages, perivascular inflammations, etc.
6. The paralysis of the facial nerve in the second case is most probably to be explained by such a perivascular swelling, pressing upon the nerve in the aqueductus Fallopii. R.

Diabetes Insipidus in a Girl Twelve Years Old

Dr. Eichenberger (*Centralbl. f. inn. Med.*, No. 40, 1897) states that the case under his observation followed an attack of influenza. She suffered from severe thirst, and voided about ten liters of urine, of very low specific gravity, within twenty-four hours. Her skin was dry and brittle.

Small doses of sodium salicylate diminished the quantity of urine passed to about five liters, and quenched the thirst considerably. S.

The Action of Bacterial Toxins on the Heart

The frog's heart served as a medium for a series of experiments made by Orlandi (*Gaz. med. di Torino*, pp. 20-22, 1897) to determine the action of the toxins of the diphtheria bacillus and that of tetanus. Upon this organ these toxins had a distinct slowing action. The time necessary to obtain a reaction varied with the concentration of the toxin. Pure cultures of Loeffler's bacillus, also of pneumococcus gave similar results. Staphylococcic and streptococcic cultures gave much less reaction, the latter being the weakest.

Inasmuch as the author found that the heart-action often recommenced after a time of absolute quiet, he concluded that the process was of an intoxicating nature, and not a degeneration. J.

SURGERY

GEORGE B. WOOD, M.D., VINCENT GOMEZ, M.D.,
HEBER N. HOOPLE, M.D.

Jejunostomy, as Modified by Maydl, Successfully Performed for Extensive Carcinoma of the Stomach

A. E. Maylard (*The Lancet*), in reporting the case as above, states that the stomach was extensively implicated, the greater part of the body consisting of a hard nodular mass of tumor-tissue. An attempt was first made to bring up the duodenum with the object of performing duodenostomy, but this was not possible. Maydl's method of performing jejunostomy was then proceeded with, the patient, a man aged 50 years, rallying well. On the second day peptonized milk was given by the abdominal wound, the administration of nutrient enemata being also continued. A marked diminution of the tumor was observed on the fourth day. On the fifth day there was for the first time regurgitation of bile from the abdominal orifice, a little fluid nourishment being also given by the mouth, causing no pain. Unfortunately, the patient had tuberculosis, his cough proving troublesome, and whatever improvement had taken place in his gastric condition seemed more than counterbalanced by the trouble he was beginning to suffer in respiration. At times the injected food was returned. On the eighteenth day the Murphy's button used to implant the proximal end of the divided jejunum into the distal segment was passed in the motions without discomfort. Three weeks after operation he died from his tubercular complication. At the necropsy the tumor-tissue was found involving chiefly the lesser curvature, but extending from this on each side down to the greater curvature. Microscopical sections of the growth showed it to be colloid carcinoma. Examination of the parts showed perfect union between the two attached portions of the intestine. L.

Contusion of Carotid Arteries

Rivit (*Brit. Med. Jour.*, April 9, 1898) reports a similar case to that already recorded by Verneuil, of accidental contusion of the carotid arteries ending fatally. The patient was knocked down on a railway, and the upper right part of the thorax caught between the wheel and the rail. The patient did not lose consciousness, but when in the hospital was able to describe the accident. The right clavicle was fractured, and there was an enormous sanguineous effusion in

the same locality. The upper four or five ribs were fractured in the dorsal region. The left clavicle was intact, and a simple ecchymosis extended up the neck. In turning over on his back the patient suddenly became paralyzed, speech was lost, the mouth drawn to one side, tongue could not be protruded, the right arm and leg were paralyzed. Tactile and thermic sensibility remained, no ptosis. After several minutes syncope supervened. There was no lesion indicating intracranial hemorrhages, but no pulsation was evident in the left carotid, facial, or temporal arteries. Thrombosis of the left carotid artery was diagnostic. The next day sensation was lost on the paralyzed side; he could swallow, but passed water involuntarily. Death ensued the same morning. The necropsy revealed a small circular zone of ecchymosis surrounding the common carotid 2 cm. below the left clavicle. Corresponding with this was found rupture of the middle and inner coats of the vessel, the torn parts forming a valve, on the rough surface of which was a clot adherent and extending as far as the external carotid. The brain showed no visible alteration. There was no thrombus nor embolism. In cases presenting apparent symptoms of cerebral lesion the lateral regions of the neck should be explored, as injury to the carotid may give rise to all the ordinary signs. G.

Mastoid Empyema without the Usual Objective Symptoms

Smith (*Therap. Gaz.*, Vol. XIII, No. 8) says that while general rules are of much value and applicable to most patients, yet their recognition and application in obscure cases are not only confusing, but positively misleading. A large number of mastoid operations are performed when the only justifiable symptoms for such a procedure are swelling, redness and tenderness, or pain on pressure over the process; whereas these local manifestations were clearly secondary and incident to an existing circumscribed inflammation within the external auditory canal. On the other hand, because of the absence of such symptoms, an existing mastoid empyema may not be recognized, or even suspected, although an examination of the external canal would have revealed distinct tumefaction or bulging of its postero-superior quadrant—a condition that is distinctly diagnostic of serious mastoid disease, even when no previous tympanic inflammation has existed, and especially if accompanied by considerable head-pain, tinnitus, and vertigo. The temperature and pulse in these cases are often unreliable, although

of considerable importance when associated with other definite symptoms. In nine cases of mastoid empyema recently seen by the author, none of the usual mastoid symptoms was present, but in all the pain was confined to the occipital region, the chief point of intensity being situated immediately below and slightly anterior to the angle formed by the junction of the inferior curved line with the external occipital; as a line drawn one inch below the external occipital protuberance and one inch anterior to its inferior extremity will indicate the point of election. In each and every case, opening of the mastoid evacuated a quantity of pus more or less offensive, which in turn relieved the suffering, otorrhea, or other symptoms. The author concludes as follows: That the history of these cases reveals an entire absence of the usual objective symptoms attributed to mastoid empyema. That redness, swelling, and tenderness over the mastoid region are not necessarily diagnostic of deep mastoid disease, but are frequent secondary local manifestations of a furunculous inflammation of the external auditory canal. That tumefaction or bulging of the postero-superior quadrant of the external canal, especially when accompanied by otorrhea, is always diagnostic of mastoid empyema (even though all manifestations are absent), and demands prompt surgical interference. That a consideration of the pulse and temperature is necessary and of much value in some cases, while in others it is totally unreliable, even misleading and confusing. That in otherwise more or less obscure cases the presence of occipital pain is of commanding diagnostic importance.

L.

Sarcoma of the Mesentery of the Cecum

J. C. Warren (*Boston Med. and Surg. Jour.*, Vol. CXXXVIII, No. 8, p. 177) reported a case of a boy apparently suffering from appendicitis some six weeks previously. The symptoms had lasted about a month and consisted chiefly of pain, more or less intermittent, at the McBurney point, a tumor also being made out in this region. Some febrile disturbance accompanied. Subsequently, upon operation, a new formation instead of suppurative inflammation was found, the growth being at the ileocecal angle in the corresponding portion of the mesentery. A very much enlarged appendix was found among a mass of adhesions. The new growth was found to be a round-cell sarcoma with glands going back to the root of the mesentery. The ileum and colon were both cut through and the incision extended down to the furthest

point of the affected part, a V-shaped mass of mesentery being removed, including the cecum and a portion of the ileum. The ends of the bowel were united by the Murphy button, which was passed on the twelfth day, the patient doing very well. The question of recurrence arising, the author had the boy put on post-operative antitoxin treatment, two drops of unfiltered Coley's solution being given. L.

Rupture of the Bladder by a Spicula of Pelvic Bone

Dr. Max A. Bahr (*Ind. Med. Jour.*, Feb., 1898) reports the case of a man 35 years of age, who was caught between two cars, and who, on examination at the hospital, presented no other signs or symptoms than a marked contusion over the left hip and right half of pelvis, with pain over the bladder and the occasional discharge of blood from the urethra.

Upon operation, it was discovered that a piece of bone had splintered from the posterior and lower portion of the left side of the os pubis, and that a small spicule had perforated the anterior wall of the bladder just below the fold of peritoneum, making an opening only large enough to allow the urine to leak through. There was considerable infiltration of the surrounding tissues with blood and urine; the peritoneum being dissected as high up as the umbilicus, marked contusion of the lower portion of the large and small bowels was evident. The perforation in the bladder, through which the leakage of urine took place, was closed with silk suture; a drainage-tube was then put in the abdomen, and the external wound closed with silk-worm-gut. The patient died later, however, of the peritonitis which had already set in previous to the operation. On post-mortem the writer discovered that the splinter of bone was caused by a partial fracture of the os pubis, it having fractured similar to a "green-stick" fracture in a young person. G.

Convulsions Due to Aural Disease, or Otitic Eclampsia

Dr. Vardos reports two cases of convulsions due to disease of the ear (*La Méd. mod.*, Vol. IX, p. 118). The first case was that of a woman who had suffered for years with ear-trouble. She had high fever, 104° F., severe convulsions, which affected the muscles of the trunk and of the extremities, rapid pulse and respiration, and delirium. An examination showed the drum-membrane bulging into the auditory canal and of a dark red. The drum-membrane was incised, and in a few hours all the troubles

disappeared. The second case was that of a young man of 17, who, suffering with an acute coryza, was suddenly taken with severe pain in the ear. The pains were getting gradually worse, and one day he was taken with such violent convulsions that four strong men could not hold him in place. These attacks were repeated several times during that day; the contractions of the muscles of the trunks of the extremities were exceedingly intense. There was neither acceleration of the pulse or the respiration nor fever. The intellect remained perfectly clear. On examination there was found an acute otitis media with inflammation of the Eustachian tube. The drum-membrane was incised, and immediately all the symptoms disappeared. R.

Traumatic Rupture of the Tympanic Membrane

Dr. Wm. C. Braislin (*Brooklyn Med. Jour.*, Jan., 1898) answers affirmatively the query: "Is it possible to rupture the tympanic membrane without the contact of any foreign body with the same, leaving out of the question fractures of the bony tympanic ring?" by reciting the history of seven cases seen by him at the Brooklyn Eye and Ear Hospital. But the author qualifies the affirmation by saying that in all these cases the rupture was made possible by pre-existing ear-disease, and he doubts if mere compression of air in the external auditory canal by the impact of a blow would rupture a perfectly normal drum-membrane.

His first case was that of a man whose left ear was struck a glancing blow by a bale of cotton. Left tympanic membrane was broken, with oozing of blood, impairment of hearing and tinnitus. In this case right ear as well as injured left had impaired hearing.

Case No. 2 was a school-boy hit with a snowball, who perceived whistling immediately after he blew his nose. Hearing was impaired, most in injured ear, 3-7 normal in opposite ear.

Case No. 3, a woman of 35, was struck with the fist on the right ear, which was her good ear, receiving a perforation which greatly impaired hearing. The membrane around the injured spot was congested and lax.

Case No. 5 was stricken in sport by a friend over both ears simultaneously. Momentary loss of hearing followed, improvement was gradual, tinnitus severe. Hearing in the right ear was three inches; in the left, 1-2 inch, both canals were normal, bone-conduction was better than air for tuning-fork. Right tympanic membrane

showed dry circular opening, the left moderate retraction, there was marked opacity, light-reflex was absent. The author believes this patient's hearing was poorer than normal before receiving the blow, though patient thought otherwise.

Case No. 7 was injured by a match playfully stuck into his ear by his child whilst he was sleeping. In the ruptured ear hearing was 6 inches, in the other 4-7. Tuning-fork was better heard with air-conduction. Impairment of hearing lasted long time, but it finally improved.

The author's summary is that

1. Drum may be ruptured without direct impact of foreign body upon the membrane, i. e., by the expansive force of air condensed within the canal.
2. Pre-existing middle-ear disease predisposes.
3. Its existence previous to trauma is inferred by present condition of opposite ear.
4. Prognosis of uncomplicated perforation was good.
5. With severe tinnitus prognosis should be guarded, as it may result from labyrinthine concussion.
6. Treatment expectant till perforation is healed.
7. Subsequent treatment to middle ear is beneficial.

H.

Complete Congenital Occlusion of the Posterior Nares

J. P. Clark (*Boston Med. and Surg. Jour.*, Vol. CXXXVIII, No. 8, p. 171) reports a case of the above. Apart from any practical value which the report of such a case may have, it is interesting in showing that an individual may grow up and live for years in comparative health without a nose, the respiratory function of that organ devolving entirely upon the mouth. The writer finds but three cases of complete bilateral occlusion reported since 1886, when was given by Hubbard a *résumé* of seventeen cases, unilateral, bilateral, and partial in character. In the latter body occlusion occurred in twelve cases, membranous in five. In the case above, the patient was a girl of 18, the occlusion having existed since birth, but its cause was unrecognized. It was discovered at birth that the infant could not nurse, so that feeding with a spoon had to be resorted to. At the age of 4 months, without the concurrence of any illness, her ears began to run; otherwise she seemed a healthy child. When she went to school she began to have fainting attacks and dull headaches, which have continued, with little diminution, up to the present time. She has the typical "adenoid face"—that of a mouth-breather. There

appears to be no abnormality about the chest, expansion being about normal. The sense of smell is entirely wanting, although taste is fairly well developed. Upon examination, a probe introduced into each nostril met the obstruction about 5 cm. from the anterior nares. The soft palate lay so close to the posterior pharyngeal wall that posterior rhinoscopy was not possible. Upon operation the occluding walls were found to consist of bone, varying in thickness from 2 to 9 mm., apparently thickest near the septum and nasal floor. Under cocaine, in the right nostril, the bony wall was drilled through with a trephine (5 mm. in diameter) run by an electric motor. From time to time the opening was enlarged. In the left nostril, a ridge was first removed with a trephine and then the partition drilled through in a similar manner, the opening being somewhat smaller than in the right because of a deviated septum being present. No trace of the sense of smell has since developed. There has been no necessity for the use of tubes or bougies in the after-treatment, as the openings made have so far shown no tendency to close. The headaches have lessened somewhat, although examination of the eyes showed the presence of astigmatism sufficient to account for them. L.

Calot's Operation for Immediate Reduction of Angular Deformity of the Spine

A. H. Tubby and R. Jones (*Pediatrics*, Vol. V, No. 4) base their paper upon a series of twenty-five cases treated by this method. At first such a novel procedure was regarded by them with considerable skepticism, but the results witnessed by them at the clinic of Calot and Redard had induced them to give the method a trial. Examination under chloroform had led the writers of the paper to classify cases of spinal deformity from the point of view of such treatment into three classes:

1. Those reducible by traction without direct pressure.
2. Those reducible in from one to three minutes and requiring direct pressure, as well as traction.
3. Those permanently ankylosed and not reducible by justifiable force.

Cases coming into the latter division were not suitable for Calot's treatment. The advantages of the operation were manifested in the greater ease with which the spine could be fixed in position after it was straightened and the avoidance of deformity of the chest with compression of the thoracic viscera. Though some paralysis was naturally expected on theoretical grounds,

it had not occurred in their experience. On the contrary, five of the patients with paralytic symptoms showed signs of improvement in that respect from the time of the operation. Dissemination of tubercle, formation of abscesses, and other complications had not occurred in their cases. From two to three years' fixation of the spine is deemed necessary. The extension, applied at the head and the feet, should be equable and not jerky. But one death occurred in the twenty-five cases, and that had occurred suddenly, with acute abdominal symptoms, six days after operation, no explanation being forthcoming at the necropsy. Ten cases were reduced at the first sitting and fifteen partially. Of the latter, two required two subsequent operations, one required three and the remainder were not further treated, but the spinal deformity was much improved by the single operation.

The contra-indications to operation are: (a) if ankylosis has taken place; (b) if the disease be of long standing; (c) if considerable deformity of the chest exists; (d) if active tuberculous disease be present elsewhere; (e) if abscesses have occurred.

Indications favorable for operation are:

1. Cases occurring in young subjects in whom the angle was a changing one, the disease of short duration, and firm ankylosis absent.

2. Those with active local disease.
3. Those without visceral complications.
4. Those presenting paralytic symptoms which have not yielded to ordinary treatment.

Dr. Calot, in the course of the discussion, stated that the operative treatment transformed a closed tubercular cavity into an open one; that the correction of the deformity was no more serious than the rectification of a deformed joint. An abscess or fistula might have to be treated previous to the employment of forcible reduction. If traction were necessary to the extent of 50 to 80 kilos, then partial ankylosis was present, and this amount of force should not be exceeded. Horizontal section of the laminæ might even be necessary. L.

Lumbar Nephropexy without Sutures

Senn (*Jour. Am. Med. Asso.*), in describing a new operation, as above indicated, trims away with scissors the kidney-fat and loose connective tissue about the kidney. The fibrous capsule of the kidney instead of being cut is freely scarified. Gauze is then packed about the kidney and left in place five or six days, or until the fibrous capsule is granulating. The lower pole of the kidney is pulled well into the abdominal incision when the gauze is removed, the kid-

ney thereby becoming attached over the whole broad granulating surface to the muscular wall without intervening fat or loose connective tissue. The kidney is held in place for the four weeks the patient is obliged to remain in bed, by a band about the abdomen, with a pad over the anterior kidney-region. Perirenal adhesions are by this time firm, and the lumbar incision usually closed. L.

Gunshot-wounds Caused by Non-explosive Bullets

Crawford, in the *Indian Med. Gaz.*, reports on gunshot-wounds received in the attack on Malakand. In the non-explosive bullets used by the enemy there was not a great difference between the entrance- and exit-wounds. In many cases in which bone was fairly struck it was not extensively shattered, and only that portion of the bone which came into direct contact with the missile was injured. Other important structures in close proximity to the track of the bullet escaped unhurt. There was no extensive destruction of soft tissues along the track of the bullet. The general good health of the wounded, the similarity between entrance- and exit-wounds, the absence of traumatic fever, and the limitations of the injuries are all characteristic of wounds caused by non-explosive bullets of low velocity. L.

Pathology of Spinal Concussion

G. Kirchgaesser, in the *Munch. med. Woch.*, No. 5, 1898, details the results of a series of experiments upon animals suffering from spinal concussion induced by blows of the hammer over the spinal region. Tonic and clonic spasms were induced, and at times general convulsions. A study of the cord showed degeneration of the fibers. Changes noted by Lutzenberger in a similar research were noted, although the present author made use of the cytological methods of the present day to a minor extent only. J.

Removal of Lens in Myopia

After carefully considering the benefits derived from properly adjusted lenses in high myopia, Dr. E. Jackson (*Int. Med. Mag.*, Vol. VII, No. 3, 1898) remarks that the number of cases to be benefited by removing the clear crystalline lens is necessarily limited, and, as better care is taken to prevent myopia, it will become more limited. On the one hand, those who can see comfortably with correcting lenses do not require it. On the other hand, those who cannot be made to see much by the correc-

tion of their myopia cannot be materially benefited by it. But between these two exists the class to whom the operation will prove of very decided benefit.

The majority of operators who have written on the subject prefer the plan advocated by Fukula, of doing a preliminary discission, making free crucial incisions in the lens, and then, in a few days, extracting the resulting swollen opaque mass. They, however, report considerable reaction following the needle-operation, which necessarily puts the eye in bad condition for the subsequent extraction, and in most of their cases a much longer period has elapsed before good vision was obtainable than is usual after the extraction of cataract. The writer has seen three cases treated on this plan, including one of his own, and the reaction in all was severe. The same severe reaction has been observed after free needling of a full-sized comparatively clear lens, for dislocation of the lens or partial opacity.

The writer prefers, therefore, the following method: At the preliminary needling a small opening is made in the anterior capsule. As much disturbance of the lens, particularly of the nucleus, is caused as is possible without increasing the capsular opening. If after this the reaction is slight, the eye may be allowed to wait until the lens has become quite opaque, when it is extracted through a comparatively short linear incision in the cornea. In the case of a man 24 years of age, this was easily accomplished through the incision made by a medium-sized keratome.

If, however, in spite of the small opening in the capsule, decided reaction occurs and seems likely to increase in severity, it will be better to extract promptly as much as possible of the clear lens. Ordinarily the removal of the whole lens cannot thus be accomplished. But the nucleus and a considerable portion of the cortex can be removed, and if, by washing with the Lippincott syringe, the anterior chamber is left free of lens-matter, the pain and hyperemia of the eye will rapidly subside. The cortex that remains, of course, becomes opaque, and for the time prevents vision. But it will ultimately be absorbed, or a clear pupil may be obtained by a subsequent needle-operation. The older the patient and the larger the lens, the smaller should be the first opening of the capsule, and the longer the time that may best be allowed to effect the opacity of the lens and its complete removal. Operating on but one eye at the time, the patient will be able to use the other during most of this period, only giving it complete rest when the operated eye shows distinct hyperemia. The writer con-

cludes that removal of the clear crystalline lens is to be considered only in cases of myopia in which the correcting lenses, necessarily very strong, cannot be comfortably worn.

It may be expected to correct about 18 D. of myopia, although the higher the myopia the greater the probable effect of the operation.

If fully successful, it will increase the size of the retinal images and the acuteness of vision more than 50 per cent.

It should be effected by beginning with discission through a small opening in the capsule, followed, except in very young patients, by extraction when the lens becomes opaque, or sooner if the reaction be severe.

S.

Pathogenesis of Salivary and Biliary Lithiasis

Hartman stated before the session of the Surgical Society of Paris on Feb. 23, 1898 (*Le Bull. méd.*, No. 17, Feb. 27, 1898, p. 194), that a bacteriological examination of a calculus removed from Wharton's duct showed the presence of the streptococcus in the center of the calculus. Mignot made an extensive investigation of the pathogenesis of biliary calculi in the same manner and found the presence of microbes (particularly the coli bacillus) in twenty-three out of seventy cases. He found the coli bacillus also in the bile. By experiments with coli bacilli Mignot has caused the formation of calculi with exactly the same structure as those formed spontaneously in the biliary tracts. From this he concludes that biliary lithiasis of infectious origin exists and cannot be contested.

H.

X-ray "Burn" Necessitating Amputation above the Knee

At a recent meeting of the Section on Surgery of the New York Academy of Medicine, Dr. J. P. Tuttle exhibited (*Mathew's Quart. Jour. of Rect. and Gastro-Int. Dis.*, April, 1898) a section of a knee-joint which he had amputated owing to chronic ulceration following the use of the x-ray. The knee had been crushed during the war, and had given pain ever since. Four years ago a floating cartilage was removed, and gave some relief for three years. Three months ago a skiagraph was taken, and it was not until three weeks after that any manifestations of trouble were noted, when the whole joint-area sloughed out and granulated, but did not heal. Skin-grafting was tried and apparently was successful for four or five weeks, but the fifth week sloughed away, leaving six and a half

by five and a half inches of raw surface. This was accompanied by extreme pain. Constant irrigation gave relief for two or three days, when pain returned and slough reappeared. The general condition was very poor. February 7 the leg was amputated well above the granulating area. Good recovery ensued. The joint showed about a dozen pieces of fractured bone united by fibrous bands.

G.

Studies on Shock

Dr. Hoeber (*Arch. f. exper. Path. u. Pharm.*, Heft 3-4) experimented on animals by irritating and wounding the peritoneum, and determined the results. He concludes that the shock of perforations, such as in perforative appendicitis, is due to the directly and indirectly caused dilatation of the large vessels of the abdomen. This large amount of blood collecting in the abdominal organs produces a secondary anemia and a cooling of the surface of the body and a drop in the blood-pressure.

J.

The Cicatrices of the Cerebral Cortex Following Operations

Dr. Kocher (*Revista de Anat. Pat. y Clin.*, No. 4, 1898) differentiates the cicatrices which result from operations performed upon the brain, and of these he considers those which have given rise to Jacksonian epilepsy.

Of eighteen operations practiced upon the cerebrum, none has given rise to epilepsy. The author attributes the cause of epilepsy, not to adherence of the cicatrix itself, but to the consecutive increase of cerebro-spinal fluid and serosity; he has operated upon four cases of alcoholic epilepsy (*grenouillé*), in one of which a complete cure has been obtained. Of fifteen cases of traumatic epilepsy, six have obtained a complete cessation of the attacks for varying periods (three to seven years), three obtained amelioration of their attacks for many years. In one the attacks have ceased, but the idiocy has increased.

G.

Ichthyol in Acute Laryngitis

Dr. Cieglewicz has employed ichthyol with great success in acute laryngitis. He uses a 2-per-cent. solution (cold) by the means of an atomizer (*Vratsch*, Vol. XIX, p. 223). The inhalations need not be deep, as otherwise nausea and vomiting may be produced. The cough and the hoarseness disappear soon, and the good results were obtained not only with adults, but with children as well. It acted like a charm in several cases of false croup.

R.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

A Contribution to the Treatment of Asphyxia Neonatorum

R. Hoguet (*Med. Times and Reg.*, Jan. 29, 1898) describes a method of treatment in asphyxia neonatorum which is as follows: The operator seating himself on a high chair, the child is laid head downward on its back along the operator's left arm, so that the head and shoulders can be supported by the fingers and the infant securely held. The child's body must be sufficiently inclined downward so that the phlegm, edema, etc., can easily run out through the nostrils, and its arms must be outstretched and hanging backward and downward sufficiently to hold the pectoral muscles in the greatest tension, bringing the chest into the maximal position of inspiration. The operator now lays his right hand, with fingers distended, down over the child's breast and abdomen, so that the tip of the middle finger rests on the throat, the index finger and the ring finger on the subclavicular regions, and the thumb and little finger in the armpits. By pressing with the fingers of the right hand on the chest and with the palm on the abdomen, artificial expiration is induced, followed, as soon as the pressure is removed, by an automatic inspiratory movement, which is caused solely by the above-described wide-open, overhanging position. The position of the child is now and then changed to an upright one, partly to empty the bronchi and partly to relieve the auriculi of the heart, at which time the operator may dip the child into a bathtub of hot water beside him, cold water being then sprinkled on the breast, etc. Between the breathing-movements the tone of the heart may be stimulated by means of delicate percussions on the precordial region in rhythm with the heart-beats.

L.

Amputation of the Cervix and Pregnancy

In what manner pregnancy and delivery are affected after an amputation of the cervix is the problem set forth by the author, Dr. Audebert, in the *Ann. de Gyn.*, 1 and 2. He bases his studies upon sixteen cases. There had occurred in these cases twenty-two deliveries at term and fifteen before term before the operation had been performed. After the operation five deliveries at term and nineteen before term, with eight abortions and eleven premature deliveries were recorded. With reference to the de-

liveries at term some were normal and some were protracted. At times a distinct anatomical rigidity of the neck of the uterus was present which resisted dilatation and had to be incised. The author believes that these results are probably consequent upon the character of the union obtained at the time of the operation. If such union was immediate, the after-results in the matter of normal deliveries are more favorable than when the healing has resulted from granulation. Another fact seems prominent. That is the greater frequency of premature deliveries. This is to be accounted for on the ground of a greater frequency of rupture of the membranes. J.

On the Frequency of Gonococci in Gynecological Patients

The regular examination of the female genitals for bacteria is made at the Paris Polyclinic, and Dr. Bourstein reports in *La Gynecologie*, 1897, p. 531, the results of the examination of 240 cases. These cases are examined by culture-methods as well, and the results show that at least 33 per cent. of the women are infected with the gonococcus. The most frequent site of the organism is the cervix, where it was found in thirty instances, sixteen times in the urethra, and eleven times in the vagina.

J.

Congenital Gastric Spasm

Dr. J. Thomson Scott (*Med. and Surg. Jour.*, Vol. I, No. 6, 1897) summarizes his views on the etiology and pathology of the above disease as follows:

1. The dilatation of the stomach and esophagus, and the slight signs of irritation in the mucous membrane (when such are present) are merely the result of the muscular overaction of the stomach.

2. The muscular hypertrophy of the pylorus and stomach is also merely a secondary occurrence, being obviously due to abnormally increased functional activity, and this (from the degree of the hypertrophy, and the early age of the children) must have existed for a considerable period of intra-uterine life.

3. The essential lesion, therefore, is not a muscular but a nervous one—a functional disorder of the nerves of the stomach and pylorus leading to ill-co-ordinated and therefore antagonistic action of their muscular arrangements.

4. Such an antagonistic spasm of the pylorus and stomach must be connected with the passage downward of the large quantity of liquor amnii which the fetus is believed to swallow during the later months of intra-uterine life. It might be very slight in de-

gree, and yet, owing to its constant recurrence, and the power of growth of the fetal tissues, it might lead in time to very great hypertrophy.

5. The functional irregularity might conceivably be caused by an irritating property in the fluid entering the stomach. This, however, is rendered unlikely by the fact that there are no signs of severe irritation found in the mucous membrane of the stomach or elsewhere in the alimentary canal. The further fact that after birth the vomiting is so largely influenced by the quantity and so little by the quality of the ingested fluid, is also against this view.

6. It seems more in accordance with the facts and probabilities of the case to suppose that the essential fault which gives rise to the muscular hypertrophy *in utero* as well as the vomiting after birth, lies not in the stomach's contents, but in its nervous mechanism, and is probably due, in some way, to delay or imperfect development.

7. Lastly, if it is admitted that the muscular hypertrophy is secondary to some sort of overaction, it will surely be better to call the disease "congenital gastric spasm" instead of "congenital hypertrophy and stenosis of the pylorus," a term which is merely descriptive of the secondary anatomical changes found after death. S.

Spina Bifida and Syringomyelia

Dufour, in *Bull. de la Soc. Anat. de Paris*, Vol. XI, p. 633, presents an interesting study of spina bifida, and considers its relation to some cases of syringomyelia.

He believes that certain cases of syringomyelia are developed in utero, and hence may be congenital, an opinion already expressed by other pathologists. In a case here cited the symptoms were latent for some time, and the existence of the lesion was determined post mortem. The author suggests the advisability of examining more systematically the spinal cords in infant autopsies. J.

Prolapsus Operations

Dr. Säger (*Centralbl. f. Gyn.*, Vol. XXII, No. 2, 1898) believes that total extirpation of the uterus is but rarely a justifiable procedure in prolapsus of the uterus and vagina. He employs central fixation of uterus and shortening of the round ligaments in very severe cases, and relies mainly upon various plastic operations. The chief object of the latter operations is to narrow and elongate the vagina, and to preserve the uterus. The operations are performed, as a rule, in one sitting, unless ventral fixation

is indicated, when the plastic operation is performed about two weeks later. Before the operation is undertaken care must be taken to heal up the erosions and ulcerations of the uterus if present. The author regards high excision of the uterine cervix as one of the most important adjuncts to the anterior flap-colporrhaphy and flap-perineorrhaphy operations. The denudation in the latter operations is practiced by making a longitudinal incision of the vagina, catching the edges of the incised vagina on either side and rolling them back outward as flaps. The author does not use any specula, but brings down the parts to be removed or sutured by means of forceps. S.

Intrauterine Infection with the Pneumococcus

At a meeting of the Société de Biologie Dr. Delestre reported the following case (*Sem. méd.*, Feb. 9, 1898): A woman in the seventh month of pregnancy was brought into the hospital in a comatose condition and with left-sided hemiplegia. She was in labor, and a living child was born. The mother died immediately after delivery, and the child died on the third day in convulsions. The autopsy of the mother showed a bilateral pneumonia, and also meningitis, caused by the pneumococcus. Autopsy of the child disclosed a pneumonic spot at the base of the right lung and a meningitis, both caused by the pneumococcus. This diplococcus was also found in the blood, in the pericardial serum, in the cerebro-spinal fluid, and in microscopical preparations of the lung, liver, and spleen. R.

Twin-bearing Related to the Age of the Mother and the Number of Her Confinements

Bertillon produced some documents before the Statistical Society of Paris recently (*Sem. méd.*, Jan. 5, 1898) revealing the unexpected laws of the influence of age and the number of confinements over twin-bearing.

Munich for fifteen years has published the statistics of illegitimate births, whether single or multiple. From these the average number of twin-births is found to be 10.5 per 1000, according to the following interesting table of ages:

At 18 to 20 years.....	4.8
21 to 25 "	7.5
26 to 30 "	12.1
31 to 35 "	16.2
36 to 40 "	20.8
41 to 45 "	19.5

This shows the frequency to increase with the age of the mother, till at 36 to 40 years

the frequency is four times as great as at 18 to 20.

Similar statistics of New South for 1893-1895 give confirmatory results:

From 15 to 19 years.....	6.26
20 to 24 ".....	6.84
25 to 29 ".....	8.95
30 to 34 ".....	12.79
35 to 39 ".....	16.20
40 to 44 ".....	13.09
45 to 49 ".....	9.00

The city of St. Petersburg for 1882 to 1892 gave the following:

16 to 20 years.....	6.0
21 to 25 ".....	9.5
26 to 30 ".....	14.2
31 to 35 ".....	20.3
36 to 40 ".....	21.7
41 to 45 ".....	15.5
45 to 50 ".....	16.0

This last statistical table contained also a record of the number of the accouchement at which the twin-births occurred:

At the 1st accouchement.....	8.1
2d ".....	9.9
3d ".....	13.4
4th ".....	15.0
5th ".....	18.7
6th ".....	21.1
7th ".....	21.5
8th ".....	22.3
9th ".....	25.7
10th ".....	27.3
All following ".....	27.7

Thus it is three or four times less likely to occur in a primipara than in the ninth or tenth childbirth. The age is less determinative, however, than the number of the accouchement. The liability to twin-births in primiparæ at 36 to 40 years is very little greater than at 20 to 25 years. In fertile women the age is not determinative, but the number of previous confinements is decidedly so. H.

Two Cases of Uterine Fibromata Cured by Electricity

The first case is that of a woman of 60 (Dr. F. Schwarz, *Centralbl. f. d. Ges. Therap.*, Vol. XVI, p. 230) with a very large tumor. For years she suffered with profuse hemorrhages, which recurred every two weeks. All remedies were tried in vain. An operation could not be undertaken on account of a fatty heart. The author had, therefore, decided to try Apostoli's method. After disinfecting the vagina with a solution of bichloride, a carbon electrode was introduced up to the fundus of the uterus, and a constant current of 120 milliamperes was turned on for ten minutes. Soon after the woman began to feel drowsy; then she had

dyspnea, clonic convulsions, and fell into a cataleptic sleep. In a quarter of an hour she awoke, feeling very tired. The same thing took place during the second seance; but as the patient felt better, the author continued the treatment once a week. The hemorrhages became rarer and rarer, the uterus contracted itself, and with the thirty-second sitting the treatment was ended, the patient being considered cured. During the last six sittings the current was gradually raised to 250 milliamperes.

The second case is similar to the above. The current was 120 to 150 milliamperes. The patient was cured in thirty sittings. R.

Chloroform Externally during Labor

Dr. Archangelsky (*Vratch*, Vol. XIX, p. 355) says that for several reasons the external application of chloroform to the abdomen in severe and irregular labor-pains is superior to chloroform-anesthesia. He employs a mixture of 1 part of chloroform to 2 or 3 parts of olive-oil, rubs it in well on the abdomen, and then applies a warm compress. In a very short time the pain is relieved, the contractions become regular and more effective. Its advantages over chloroform-anesthesia are: the patient remains fully conscious, the pulse and the respiration remain good, there are no nausea, no vomiting, and no uterine atony. R.

A Dermoid Tumor Weighing over Seventy Pounds

Dr. H. T. Byford reports a unique case (*Chic. Med. Rec.*, Vol. XIV, No. 4, p. 330). The patient was 52 years old. Her abdomen began to enlarge twenty-five years ago, and has steadily increased in size ever since. There was but little pain until two years ago, when it became intense in the abdomen, back, and legs. She obstinately refused any medical treatment or operation. One night, though, the pain became so unendurable, and the general symptoms of weakness and heart-failure so threatening, that a physician was sent for. When admitted to the hospital she was unable to stand. Her pulse was 120 per minute. The abdomen was enormously distended by a fluctuating tumor, which pushed the ribs upward and outward to the extent of giving the chest a conical shape. The cervix uteri could be seen under the urethra, and the posterior vaginal wall formed a protruding mass between the thighs the size of a large fist. At the operation the tumor was found adherent everywhere, except at the posterior portion of the true pelvis, which contained fluid extending down into the sac, protruding between the labia. The tumor, when removed,

weighed seventy pounds. It was a unilocular cyst, containing a thick emulsion of fat, in which were suspended ten chignons. The withdrawal of fluid from the tumor seemed to produce no ill effect upon the patient's condition until the operation was nearly over, when her pulse became quite irregular and weak. A pint of normal salt-solution with two ounces of brandy was injected into the colon, and 1-20 grn. of strychnine with 20 minims of tr. of digitalis hypodermically. Three weeks after the operation she was able to sit up, but her heart was still weak. Her ribs project six inches farther out than her retracted abdominal wall. R.

The Influence of Morphine, Ether, and Chloroform on the Progress of Labor

From observations made in the Clinic at Kiel, Dr. H. Hensen (*Arch. f. Gyn.*, Vol. LV, No. 1; *Centralbl. f. d. Ges. Therap.*, Vol. XVI, No. 3, p. 157) comes to the following practical conclusions: .

Morphine in doses of 0.005 to 0.02 (1-12 to 1-3 grn.) has no influence whatever on the pains or on the pressure of the abdominal muscles.

Ether causes in from one to two minutes a diminution in the strength of the pains and a prolongation of the intervals between the pains. In five to twenty minutes after discontinuing the ether the pains commence with the same strength as before.

Chloroform also diminishes the pain and the pains the same as ether does, but the latter has a great advantage over the former. While after ether the activity of the uterus is re-established in a few minutes, after chloroform the uterus sometimes fails to contract for as long a period as two hours.

It is therefore of importance that in obstetrical operations, such as forceps-extraction, turning, etc., where a speedy re-establishment of uterine contractions is highly desirable, ether and not chloroform should be employed. Many a hemorrhage following uterine inertia may be ascribed to the employment of chloroform. R.

Complete Atrophy of Uterus Following Vaporization

The case in question related by Dr. Baruch, *Centralbl. f. Gyn.* (Vol. XXII, No. 5, 1898), indicates the undesirable results which are apt to follow vaporization in cases of uterine hemorrhage. The patient was 27 years old. On the fifth day, after a normal delivery, she had a rise of temperature; recovered, however, after three weeks. The first recurrence of her menses took place four and a half months after delivery, and continued eight weeks. The uterus was then vaporized and the hemor-

rhage was immediately arrested; since then, however, the menses did not return for two years, during which time she suffered from all symptoms accompanying the menopause.

Upon examination the uterus was found hard, greatly atrophied, and adherent with its entire posterior surface. There is complete atresia of the cervical canal, the Fallopian tubes are not palpable, and the ovaries can hardly be felt. S.

Sclerema Neonatorum

Libman, at the stated meeting of the New York Academy of Medicine, Dec. 9, 1897, presented a baby six weeks old with the above condition. The child had been asphyxiated when born, and had been slapped vigorously to restore respiration. When the mother first began to take care of the infant it was ten days old, and she then noticed for the first time the hardness of the buttocks. The bodily temperature was 99° F., when the child was first seen, and the indurated area extended very rapidly. In a few days the axilla and calves were involved, but at the present time these areas are improving. The general condition of the child was fair. L.

Syphilis as a Cause of Abortion

In an article on this subject J. A. Ouimet (*Med. Rev.*, Vol. XXXVI, No. 15, p. 267) draws the following conclusions:

1. Syphilis is a powerful cause of abortion, the abortion being due to lesion of the fetus itself or of its appendages.
2. It occurs mainly about the seventh month. The father alone, being syphilitic, can transmit the syphilis to the product of conception. The latter is more liable to occur the nearer the moment of conception is to the beginning of syphilis.
3. The mother may give birth to a syphilitic child while remaining free from syphilis.
4. When the father and mother are both syphilitic the child rarely escapes infection.
5. The mother being syphilitic before pregnancy, is more liable to give birth to a healthy child the more ancient the syphilis.
6. The nearer the syphilis approaches the termination of pregnancy the greater chance the child has to escape infection.
7. The child born of a syphilitic mother may come into the world presenting lesions manifestly syphilitic, or be born apparently healthy and only become syphilitic after some months, or even years.
8. Syphilis imparts no particular characteristic to the course of confinement. Mercurial treatment should be instituted at the beginning of pregnancy. L.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Formula for Use in Typhoid Fever

Zangaard, in *Centralbl. f. d. ges. Therapie* (Vol. XVI, p. 182):

Powdered Camphor..... 8 to 10 grn.
Expressed Oil of Almonds..... 2½ dr.
Powdered Acacia..... 75 grn.
Decoction of Cinchona (from 75 grn.) 5 oz.
Syrup of Balsam of Peru..... 1 oz.

Make an emulsion. S.—A tablespoonful every two hours.

R.

In Acute Rhinitis

It is recommended to smell frequently of the following mixture (*Centralbl. f. d. ges. Therapie*, Vol. XVI, No. 3):

Carbolic Acid..... } of each 1¼ dr.
Ammonia Water..... }
Alcohol..... 4 dr.
Water..... 2½ dr.

R.

Diaphoretic Powder

V. Graefe recommends to take the following powder in a cup of tea on going to bed as an excellent diaphoretic:

Camphor..... ½ to 1½ grn.
Opium..... ½ to ½ grn.
Potassium Nitrate..... 3 to 5 grn.
Sugar 2 dr.

R.

Orexine as a Stomachic

Dr. Friedrich Kölbl reports (*Wien. med. Woch.*, 1897, No. 51. 52) having used basic orexine in forty cases as an appetizer. Among these were the following: Nine cases of chlorosis in girls of 15 to 22 years of age, who, after four days' treatment, were permanently benefitted; seventeen cases of tuberculosis (comprising eight of apical catarrh, five of chronic pulmonary tuberculosis, and four of glandular tuberculosis), in which, two days after the effects began to set in, the use of the remedy was suspended, and the results remained permanent; four cases of reconvaescence (one following croupous pneumonia, one pleuritis sicca, and two influenza), in which, after the first dose of 0.5 gme. (8 grn.) a distinct result was observed, and was made permanent after eight doses had been given; four cases of neurasthenia, in two of which a noticeable effect was seen to follow the exhibition of the first dose 0.5 gme., and was made permanent after six doses had been given. In the two others the results

were less favorable, the administration of the remedy being attended by vomiting; six cases of chronic gastric catarrh of a mild form were also treated. In three of these a decided result was obtained after the second dose, but constant medication was required to obtain the desired effect. In two cases the results were first obtained on the third day, and in the remaining case, the first dose was vomited, but the succeeding ones were retained. In the last three cases mentioned the results were permanent, after the suspension of the remedy.

Besides the above-mentioned cases, the author also gave basic orexine to nine healthy persons, and noted in them decided effects, unaccompanied by by-effects. The dose in every case was 0.5 gme. (8 grn.), given in wafer, twice daily, before meals.

F.

Ichthyol in Affections of the Respiratory Tract

Le Tanneur states (*N. Y. Med. Jour.*, Vol. LXVII, p. 136) that he has experimented with ichthyol for the past two years in pulmonary tuberculosis, dry catarrh, purulent catarrh, bronchial dilatation with fetid expectoration, and acute bronchitis.

In the treatment of these different affections the author obtained the best effects from the employment of this drug. In numerous cases of tuberculosis he alternated with guaiacol or creosote for several months, and obtained excellent results. Ichthyol was employed in capsules containing four grains each and covered with a coating which enables the capsule to pass through the stomach into the intestine without becoming dissolved. From four to eight capsules a day were taken at meal-times. The most careful observations, says the author, failed to reveal the least inconvenience in the digestive tract. In several patients, who showed symptoms of gastric fermentation or diarrhea, these symptoms were diminished by the use of ichthyol. In fifty cases of tuberculosis of all forms and degrees the amelioration was manifest in forty-two, recovery was complete in two, and in six cases only was no benefit obtained.

In the treatment of dry catarrh the dominant symptoms were the obstruction of the small bronchi by mucosities, which were difficult to expel and provoked coughing and hindered respiration, and the thickening of the mucous membrane of the bronchi, which diminished the lumina of the aerial canals and consequently also hindered respiration. In these cases the ichthyol acted on the mucous membrane as a revulsive, freeing and gradually reducing

it; the sputa became liquid and their expulsion easier. These facts encouraged the author in the employment of the drug, and he continued its use in fifty cases, in which he obtained veritable success.

In purulent catarrh and in bronchial dilatation with fetid expectoration, ichthyol gave good results; the greenish expectoration became yellow, then simply mucous; the cough diminished, and the disease gradually progressed toward recovery. The author cites two cases, which he considers remarkable, of very localized bronchial dilatation subsequent to an attack of pleurisy, in which the affection was very rapidly ameliorated by this treatment. One of the patients was completely freed from the expectoration after the consecutive employment for two months of eight capsules a day.

In the acute affections of the bronchi, it was in the paroxysmal forms of the cough that the ichthyol exercised the best action. The quieting effect, says the author, which generally occurred in less than three days, indicates that this drug has a very sedative action on the bronchial reflexes.

In acute bronchitis, during the period of acuity or that of development, at the time when the cough was harsh and paroxysmal, a notable diminution of the objective symptoms was observed to follow the administration of six capsules of ichthyol a day. In the latter stage the modifications in the character of the sputa were as rapid as they were manifest. From green the sputa became yellow, then white, in from two to four days at the most; finally they diminished rapidly in quantity.

Concerning the general symptoms of the patients, the author thinks that the action of ichthyol presents considerable interest. From the beginning of his experiments he observed a notable amelioration in this respect. In patients suffering from tuberculosis or catarrh, in whom the general condition was altered, there was an increase in weight of from seven to eight pounds during the first month of the treatment, in others of only four pounds, but in two-thirds of the cases there was an increase in weight.

F.

Does Pepsin Act in an Alcoholic Medium?

This question is answered in the affirmative and in the negative by different observers (Copiton, in *La Méd. mod.*, Vol. IX, p. 53). While some claim that pepsin loses its activity in even the weakest alcoholic medium, considering the various wines and elixirs of pepsin worthless preparations, other clinicians, among them the eminent

therapeutist, Prof. M. A. Robin, positively assert that this is not the case; the elixir of pepsin of the French codex gives them good results. Symes' experiments seem to furnish a satisfactory reason for the difference of opinion existing between the chemists and the clinicians. He has shown that the inhibiting action of the alcohol exists only when the pepsin and the alcohol are in a glass (or similar) vessel. Something entirely different occurs when the glass vessel is replaced by a moist animal membrane. The alcohol at once begins to diffuse through the membrane, and in a short time the pepsin begins to exert its solvent action on the albumen. After two hours the amount of albumen dissolved was nearly equal to the amount of albumen dissolved by pepsin in a medium which contained no alcohol at all. It is therefore not contra-indicated to prescribe pepsin in a weak alcoholic medium. R.

Barium Chloride in Heart-disease

Barium chloride (*Therap. Gaz.*, XXII, p. 236) in small quantities possesses a physiological action closely allied to that of digitalis so far as its influence upon the heart is concerned. Thus it slows the heart very greatly, steadies cardiac rhythm, and markedly increases the quantity of blood thrown out of the ventricle at each contraction. At the same time it increases blood-pressure, as has been proved by the careful studies of Kobert, of Dorpat, and it would seem probable that it exercises a more powerful systolic influence over the ventricles than does digitalis, the slowing of the pulse being due rather to an excessive systolic action of the drug and to high arterial tension than to any effect which the drug may exercise upon the pneumogastric nerve. The drug is therefore one which apparently should prove useful in a certain proportion of cardiac diseases, which for one reason or another fail to obtain benefit from digitalis.

A large number of clinicians have employed this drug in the treatment of heart-disease with failing compensation, both in adults and children, particularly when the pulse is weak and irregular, and is lacking in volume. The writer has used this drug in a number of cases and has reached the conclusion that it is of value, but must take place after both digitalis and strophanthus as a cardiac tonic. The dose is a teaspoonful of the 1-per-cent. solution three times a day to an adult or one-half this to a child from 6 to 10 years. These doses do not cause irritation of the gastrointestinal tract, and very much larger doses

of barium are required before it will act as an irritant poison. There are, therefore, no reasons why it should not be tried in the cases mentioned. F.

Naftalan

Dr. Friedrich Rosenbaum, of Tiflis, at a meeting of the Imperial Caucasian Medical Society, Russia, reported that naftalan is prepared from a special and peculiar crude naphtha which, despite its high specific gravity (0.96), differed from other naphthas in containing neither resinous nor asphaltous substances. This special naphtha is found in Caucasus, and the naftalan obtained from it is described as an ointment, which may be readily spread, is absolutely neutral, possesses but little odor, and does not deteriorate on keeping. Although non-miscible with water or glycerin, it is soluble in ether and in chloroform.

The remedy was used by the author in a variety of cutaneous diseases, such as burns, acute eczema, dry, chronic eczema, acne rosacea, psoriasis, superficial wounds, phlegmonous affections of the subcutaneous cellular tissue, abscesses, chancre, bubo, and epididymitis, as well as in acute articular rheumatism, rheumatism of gonorrheal origin, affections of traumatic origin, parotitis epidemica, inflammation of the throat-glands when of tuberculous character, lupus exulcerans, etc., in conjunction with other remedies. The results obtained in the number of cases treated were as follows:

(1) The remedy was found to be harmless in all cases, and at no time was any injurious effect observed; (2) in burns, naftalan developed a wonderful, analgesic, cooling, and anti-inflammatory action, in this respect surpassing all other remedies; (3) the action of naftalan was especially excellent in acute and chronic eczema, pityriasis, dandruff, psoriasis, and in lupus, yielding results unobtainable by means of any other remedy; (4) in erysipelas, the course of the malady was at once favorably influenced, the inflammation being checked, and the temperature becoming normal on the second or third day; (5) on inflamed wounds and abscesses naftalan exerts an antiseptic and anti-inflammatory action, and accelerates cicatrization; (6) the pains of bruises, contusions, dislocations, and sprains, are removed by naftalan, which acts as a resorbent and heals the wounds; (7) rheumatism and gout are greatly relieved, the pain being lessened; (8) naftalan also exerts an antiphlogistic, analgesic effect in epididymitis, bubo, inflammation of the lymphatic glands, etc.

Naftalan was also extensively used as a

base for preparing mercurial ointment, the mercury having been found to mix more readily with naftalan than with fat or lanolin. The improved mercurial ointment is easily absorbed, and should be but lightly rubbed in. Forcible friction during inunction is liable to cause furunculosis from closure of the sebaceous gland-ducts. By the use of the naftalan a speedy disappearance of the symptoms was ensured. Naftalan is ordinarily employed by applying a fairly thick layer, spread either on linen, or on the affected part, which is then covered by a cotton dressing. The ointment is rapidly absorbed, hence it is advisable to make the application twice daily.

Naftalan was also used by Dr. C. Pezzoli in ninety-two cases of various cutaneous affections, such as eczema, sycosis, psoriasis vulgaris, impetigo contagiosa, scabies, as well as in herpes tonsurans, pityriasis versicolor, erythrasma, etc., with good results, the remedy being well borne in all cases. The preparation was employed also in Dr. Max Joseph's clinic, in fifty cases of skin-diseases, with generally good results. Its value is confirmed also by Dr. Golinier. F.

Obesity Treatment

Kisch, of Marienbad (*Brit. Med. Jour.*, No. 1947, p. 67), deprecates too rigidly uniform measures in the treatment of obesity, which should be carefully adapted to each individual case. He discusses the principal indications under seven heads:

1. All dietetic excess should be avoided; three, or at the outside four, meals a day should be permitted and no food allowed in the intervals. The quantity and variety taken should be based upon the heat-giving properties of the food-substances; Kisch gives the value of some of the principal diets in calories, and recommends that no more than the amount necessary to provide the minimum number of calories should be allowed.

2. As regards quality, the first essential is an adequate supply of proteids; a moderate amount of carbohydrate may be allowed, but the fat must be reduced to a minimum. Piquant seasonings are to be avoided, as they may stimulate to dietetic excess.

3. The consumption of fluid is not to be limited unless symptoms of cardiac failure are present; such liquids as are fancied, with the exception of alcohol, may be taken at any time, but moderation is to be observed at meals. Cold water, especially if charged with carbonic acid, is to be preferred; anemic subjects should drink less than plethoric. The amount allowed must

be restricted when signs of fatty affection of the heart are present.

4. The author is a strong advocate of exercise and active movements in the treatment of plethoric obesity, the state of the heart being always taken into consideration; they are of particular value in increasing the activity of oxidation processes. In anemic subjects, however, these advantages are counterbalanced by the increased nitrogenous waste which may injuriously affect the heart. In these patients passive movements and massage are accordingly to be recommended.

3. Great importance is attributed to diminution in the hours of sleep, during which the activity of metabolism is reduced; sleep should be entirely forbidden during the day.

6. Tissue-change is also to be increased by baths, particularly in springs rich in carbon dioxide, which are most stimulating to the skin. Turkish baths are also of value if the heart is sound.

7. Finally, it is of importance to secure a pure air, rich in ozone, especially in a high and wooded neighborhood. The lungs are thus stimulated to greater activity, and the effect is aided by the change in the patient's habits and occupations. F.

Treatment of Hemoptysis

In a paper on the treatment of hemoptysis by Dr. Harrington Lainsbury (*Treatment*, Vol. II, p. 65), the author states that, on the whole, there is a general agreement that in severe cases of phthisical hemorrhage of all kinds, ergot is perhaps the most reliable drug, administered in full dose initially of the fluid extract (2 to 3 fl. dr.), and afterwards in smaller dose of 20 to 30 minims every hour for a few doses, or hypodermically in full dose, 15 minims of a solution of four to five grains of ergotine. The hypodermic injection is the more potent agent; it should be made deeply into the muscles. The subsequent action may be maintained either by injections or by doses of the fluid extract, 20 minims every half-hour for a few doses.

Digitalis is indicated in the same class of cases as that which calls for the use of ergot, but in general it develops its effects slowly. If employed as a means of controlling a sudden large hemorrhage it should be given hypodermically, 20 to 30 minims of the tincture; the dose to be repeated in half an hour if need be.

Tincture of hamamelis is useful in hemoptysis, and may succeed when other remedies fail. It is indicated in case of small but persistent blood-spitting, in 10- to 20-minim doses every four or six hours. In

employing gallic or tannic acids the remedy must be repeated frequently, and the initial dose be maximal, e. g., of gallic or tannic acid. 20 or 30 grn., in 1 oz. of water, at once, and subsequently a teaspoonful of such solution every twenty minutes.

The application of firm ligatures around the thighs and the upper arms appears in some cases to have been effective; the *modus operandi* is perhaps by starving the pulmonary circulation by the arrest of the blood returning from the limbs. If this be the explanation this method will secure a lowered blood-pressure.

The treatment by calcium chloride, which is based on physiological findings, seeks neither to close the rent in the vessels nor to reduce the blood-pressure, but to heighten the coagulability of the blood generally, and so to favor thrombosis at the bleeding points. The salt must be given in full doses of from 15 to 45 grn. every four to six hours, or in great emergencies from 20 to 30 grn. as an initial dose, and then from 4 to 5 grn. every quarter of an hour for a few doses, subsequently as above. Investigations seem to indicate that the coagulability of the blood increases during the administration of calcium chloride up to a certain point, and then declines and may fall even below the normal. For three or four days the coagulability increases, and therefore, during a period not exceeding this, the drug may be given, dissolved in either water or milk, or with the addition of some extract of licorice. F.

Elgon and Eigon Preparations

"Eigon" is the generic name given by Eugen Dieterich (*Pharm. Centralh.*, Vol. XXXIX, p. 183) to a group of compounds of albumin with iodine in stable combination. The preparations are intended to replace the iodine preparations hitherto used, both internally and externally. The following are to serve as bases for various medicinal preparations: Alpha-eigon, occurring as a light-brown, odorless, and tasteless powder, containing 20 per cent. of combined iodine which is liberated by both acids and by alkalis, more readily, however, by acids; Alpha-eigon-sodium, sodium iodoalbuminate, an almost colorless, odorless, and nearly tasteless powder, containing about 15 per cent. of iodine combined with the albumin, and soluble in cold but more readily so in hot water; Beta-eigon, peptonum iodatum, with properties similar to those of the above-mentioned preparations, but specially intended for use where large quantities of iodine are required to be ingested, and a more ready and

rapid absorption required because of weakened digestive functions or of gastric affections.

F.

Glycozone in Chronic Gastritis

Louis A. Kingla (*New England Medical Monthly*, Feb., 1898) was called in consultation in January, 1895, to see J. W., who had been suffering for about a year from gastritis. He complained of being unable to take either solid or liquid food, even in small quantities, without nausea, and finally headache and vomiting. The symptoms were cumulative, and at intervals of from ten days to two weeks he had attacks of headache and intermittent vomiting which lasted from three to five days. The author tried in turn acids, alkalies, alteratives, pepsin, digestants, purgatives, tonics, bitters, sedatives, diets, etc., but the only perceptible relief came from small doses of diluted hydrochloric acid between the attacks, and a solution of cocaine and morphine during the paroxysm. About July 3, 1896, he ordered glycozone 1-2 then 1 drachm well diluted twenty minutes before meal-time. In a few days the patient said he felt better, and continued to improve until he was able to eat three fairly good meals and enjoy them. No other medicine than the glycozone was used except occasionally a pill of aloin, belladonna, strychnia, cascara, when the bowels were sluggish. The author has since had excellent results with glycozone in similar cases.

Soziodole-mercury in Syphilis

Dr. F. J. Lambkin reports (*Gaillard's Med. Jour.*, Vol. LXVIII, p. 225) having used mercury soziodole in syphilis in the form of the following solution:

Sodium Iodide.....10 grn.
Mercury Soziodole.....5 grn.
Distilled Water.....200 min.

Dose: 10 to 15 minims as an injection.

The author has obtained good results by its means, but he adds that at the time of the injection, and for some time after it, some pain is experienced, and that the treatment does not appear to have quite so rapid an effect as injections of the following:

Mercury1 dr.
Lanolin.....1 dr.
Carbolized Oil, (2 g.).....1 dr.

Still, in view of the fact that the soziodole possesses none of the disadvantages of the latter, he has no hesitation in recommending it for general use.

F.

REVIEWS

Traité Médico-Chirurgical de Gynécologie.

Par les Drs. Labadie-Lagrave, médecin de la Charité, et Felix Legueu, chirurgien des Hôpitaux. Un fort vol. gr. in-8° de 1250 pages, avec 270 gravures dans le texte, cartonné à l'anglaise, 25 fr. Félix Alcan, éditeur, Paris.

We say without the least hesitancy that the work before us is one of the very best text-books on Gynecology in the French or any other language. It is as well adapted for the student as it is for the practicing physician. It is thoroughly up-to-date in every respect. It represents—and this is a feature of the highest importance—not only the present status in gynecology in France, but throughout the civilized world, and this high object the authors were enabled to obtain by a thorough familiarity with the American, English, German, Russian, and other literatures. References to the text-books and periodicals in those languages are to be found on almost every page. In this respect the work is in striking contrast to many text-books from the pens of our German confrères. The text-book of Runge, for instance, completely ignores any foreign language. The references are all German, exclusively, just as if the British, American, and French physicians had not contributed one iota of original work on the field of obstetrics and gynecology. Dühessen's work on gynecology does not even mention that there is such a thing as Sims' or a lateral position in gynecological procedures. The work before us, as we said, is free from any such reproach. The book is divided into two parts: A general and special. The first part treats of the general symptomatology of female diseases; of the diagnostic methods and the therapeutic measures at our command. This part contains excellent chapters on massage, hydrotherapeutics, electrotherapeutics, and the employment of saline solutions, subcutaneously and intravenously; opotherapy and Marmorek's serum also receive treatment. In the second part the diseases of the special organs are treated. Such affections which in other text-books have so far received no treatment at all, or only an inadequate one, receive here full consideration. To these belong: Krauroris vulvæ, leucoplasia of the vulva and vagina, pelvic hydatid cysts, etc. On the subject of treatment the authors are on the right track. They are neither too conservatively medical, nor do they belong to those who would take gynecology out altogether from the hands of the physician and transfer it into the hands of the surgeon. The language is admirably concise and charming. The illustrations are for the most part original.

The *New York Evening Post* says that the Danish Medical Association, with the assistance of the government, has, during the past few months, distributed throughout Denmark placards and pamphlets giving careful instructions for the prevention of tuberculosis. The placards are to be hung up in conspicuous places in railway carriages and stations, schools and factories, and are distributed without charge to those asking for them. This measure, combined with the efforts that are now being made for the establishment of hospitals for the special treatment of tuberculosis, ought to have an appreciable effect upon the present rapid spread of the disease in Denmark.

American Medico-Surgical Bulletin

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HORATIO C. WOOD, M.D., LL.D., Editor
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EDITOR'S NOTE

A house divided against itself, it is said, cannot stand. It is to be hoped that the division of the house of the anti-vivisectionists that has lately occurred will mark the beginning of the end of their pernicious activity. Frances Power Cobbe, the original organizer of the anti-vivisection movement, threatens to leave the English branch of the society if it adopts the hypocritical methods of its American progeny. She indignantly declares: "I will remain a member of no association which lowers by an inch the demand that the abominable sin of vivisection shall be forbidden in the land and not regulated any more in any manner whatever." We glory in her pluck and commend her honesty. If we believed in anti-vivisection, hers would be our attitude, and anything short of this is sheer hypocrisy of the worst kind. No honest anti-vivisectionist can take any other position. Bad morals, like bad diseases, are catching. The dishonorable pretence of the anti-vivisectionists of this country that they only wish to regulate vivisection, when they really want to suppress it, has struck a chord of dishonest sympathy on the other side of the Atlantic, hence this split. Mr. Stephen Coleridge replies to Miss Cobbe, on behalf of the Committee of the National Antivivisection Society, that torture has increased under her policy. They now, he says, wish to put down tor-

ture rather than painless vivisection. They want a law that will give them the free right to enter any and every physiological and bacteriological laboratory, and see what is being done, with power to stop what they deem cruel. They want to stop entirely the use of curare. Mr. Coleridge says: "This is our policy, as opposed to the hopeless, sterile policy of the last twenty years." For twenty years antivivisectionists have held the hands of scientific workers, the best of whom they have compelled to go to France and Germany, and yet they are not satisfied. They want now, by a pretence, to get a better chance to restrain investigation still farther. They know how easy it is to fool the public in matters of this kind by first appealing to its sympathies and then saying that they do not wish to stop science, but only to keep it from being cruel. In this way they hope to win the votes and support of the unsuspecting. Such diabolical pretence they know will win them more assistance than an honest straightforward course.

THE DENVER MEETING.

The American Medical Association meeting at Denver has just closed, and all the visiting doctors have gone off on excursions to various parts of the mountains. The meetings all proved a perfect success, and the large number of excellent papers read will keep the members busy reading for a long time to come. The addresses were listened to with great interest.

A very attractive feature of the convention, and one deserving of especial notice in the BULLETIN, was the various exhibits of drugs, medicines, foods, books, mineral waters, surgical goods, and the like. If one might judge from the attention given to these by the constant stream of doctors passing through the Gettysburg building it would be fair to infer that greater interest was taken in these than in the work of some of the sections. The new books were the centers of attraction for studious visitors. The Macmillan Company, of New York and London, had on display medical works by American, English, and German authors of a high order in neat and serviceable cloth, sheep, and half-morocco bindings, making a special feature of Allbutt's System of Medicine, Klemperer's Clinical Diagnosis, and Brunton's Lectures on the Action of Medicines. W. B. Saunders, of Philadelphia, had a fine display of works by American and foreign authors, and his Text-Books took the attention of many passers. The J. B. Lippincott Company's latest Philadelphia medical publications, and particularly the New Medical Diction-

ary, caused many a passer to pause and examine. P. Blakiston, Son & Co., of Philadelphia, showed Tyson's Practice, Hemmeter's Diseases of the Stomach, Byford's Gynecology and other reliable works. Lea Brothers & Co., of Philadelphia, had a very fine exhibit of medical and surgical books. Among the interesting works shown by D. Appleton & Co. were Kelly's Operative Gynecology, and Foster's Practical Therapeutics.

Besides books to act as ferments to the mind there were a number of fine displays of the ferments that aid digestion. Armour & Co.'s exhibit attracted much attention. They had a full line of pepsin-preparations, glycerin extract of red bone-marrow, nutrient wine of beef peptone, and a number of glandular extracts. Messrs. Fairchild Bros. & Foster showed their well-known essence of pepsin, peptogenic milk powder, panopepton, etc. The value of these preparations was attested by the interest shown in them by leading physicians from all parts. Parke, Davis & Co.'s Taka-Diastase display and the experiments in starch-digestion shown caused the throng of visitors to frequently cluster around their part of the hall in eager crowds. The Maltine Company, not to be outdone in this, also showed experimentally the high digestive quality of its preparations, and made an attractive display of all the crude products used in making Maltine. David Nicholson, of St. Louis, exhibited his Liquid Bread, a pure malt extract for children and invalids which was claimed to possess great diastatic powers. The Trommer Extract of Malt Co., Fremont, O., laid stress upon a number of malt preparations.

The well-known firm of Wm. R. Warner & Co., of Philadelphia, supplied the doctors with card-cases setting forth the merits of Inguvin. Their exhibit was both attractive and popular. Its location forced recognition, as it stood so near the entrance. It embraced standard pharmaceutical preparations. McKesson & Robbins displayed water-color drawings showing the life-history of the malarial plasmodium. This object-lesson on the cause of ague was a source of much interest to every physician who saw it. The effect of guaiacuin, their new substitute for quinine, on the plasmodium was pictorially illustrated in a most telling manner. The gradual dissolution of the parasite as taken from actual cases treated with this remedy was a very telling argument. John Wyeth & Bro., Philadelphia, made an impressive display of fluid extracts, pills, wines, elixirs, and other pharmaceuticals.

Schiffelin & Co., of New York, displayed

a fine lot of pills, granules, and other preparations, and particular attention was paid to the synthetic products of Bayer & Co., of Germany. The Upjohn Pill & Granule Company was in full evidence with a fine display of friable pills and granules in patriotic arrangement representing "Old Glory." The Keasby & Mattison Company, of Ambler, Pa., had an exhibit of granular effervescent salts set off to good advantage by bunting. Messrs. Tarrant & Co., of New York, had an attractive display, and took particular pains to show the only imported Hoff's Malt Extract. Each physician who passed was presented with a visiting-list.

The Searle & Hereth Co., of Chicago, had a very handsome exhibit. Its fluid extracts, sugar-coated goods and well-known specialties commanded a good share of attention. The Dios Chemical Co., of St. Louis, had a well-arranged display of diosiburnia, neurosine, sennine and palpebrine. The uses, value, and character of these remedies were constantly explained to a large and continuous throng of interested doctors.

The Denver Chemical Manufacturing Company had a neat exhibit of its new external remedy, antiphlogistine. C. Bischoff & Co., of New York, had a very prettily arranged display of the new synthetic, antipyretic, and analgesic kryofine. The young men in charge took pains to let all the physicians know that it was not a mixture, but a true chemical entity. The well-known firm of E. Fougere & Co., of New York, had a large line of specialties, but took especial pains to call attention to colchi-sal and betul-ol, their antirheumatic remedies. The Faber Chemical Company, New York, showed ferramon, which is recommended in eczema and other cutaneous disorders. R. W. Gardner, New York, had in his exhibit Gardner's Syrup of Hydriodic Acid (iodide of hydrogen), Syrup Hypophosphite of Ammonium, Syrup Hypophosphite of Lime, Soda (single salts), chemically pure. Messrs. Theodore Metcalf & Co., of Boston, filled most of their space with well-known coca-preparations and called especial attention to their coca-wine.

The display of the J. Ellwood Lee Company, of Conshohocken, Pa., was very pretty and enticing to surgeons. A complete line of absorbent cottons, antiseptic dressings, ligatures, hospital supplies, and medical sundries made up the list. The blue and gold banner, with its ever-present trademark, could be seen from all parts of the building. From the constant throng surrounding the exhibit one would judge it had proven a profitable advertisement. Messrs. Seabury & Johnson's exhibit in the

same line commanded so prominent a position at the entrance to the hall that it could not help attracting attention to the plasters, dressings, lint, cottons, and antiseptic goods of the large and varied collection.

The Oakland Chemical Company, of New York, was well in evidence with its stand and quality of hydrogen dioxide. The Mellier Drug Co., St. Louis, proprietor of Tonkalin & Ponce Compound, was a prominent visitor. The New York Pharmaceutical Association, the Arlington Chemical Co., and the Palisade Manufacturing Co., of Yonkers, N. Y., had a stand at which were handed out samples of their products, lacto-peptone, liquid peptonoids, borolyp-tol, and hemoboloids. The Smith, Kline & French Company, of Philadelphia, among other things, took particular pains to call the attention of the doctors to its Eskay's Albuminized Food for infants and invalids. The pretty case for carrying memorandum-paper, powder-papers, and cards, presented by this company, was in great demand, and will long keep the recipients in remembrance of the donor. Mellin's Food was there in fine display, and the liberal scattering of advertising matter kept the visitors from failing to give it full consideration. Horlick's malted milk drew a large stream of visitors wishing to sample the compressed tablets for vest-pocket lunches and the malted milk ice-cream. Imperial Granum, the prepared food so well-known among physicians, had an attractive stand. Sample boxes of the preparation and a clinical record were given away here. London-derry lithia-water, Bethesda mineral water, and Ozonate lithia-water had each handsome displays, and each poured out iced supplies to the passing thirsty crowd.

The Pneumochemic Co., of Cincinnati, O., had Dr. Robertson's multiple comminuter and compressed air apparatus on exhibition with all accessories, claiming for it the greatest utility with the least expense, and the Globe Manufacturing Company, of Battle Creek, Mich., had its universal multi-nebular vaporizer, which the doctors were told embodied all the latest ideas in regard to respiratory therapeutics. The Hot Appliances Company, of Cortlandt street, New York, had a fine display of geyser hot appliances for applying heat as a remedial agent.

The Standard Cold Electric Lamp Company, of Washington, D. C., had a fine display of mouth, vaginal, rectal, nasal, stomach, and dental lamps, and the Fessenden Manufacturing Company, of Pittsburgh, Pa., interested every visitor with its x-ray machines and shadowless arc-lamps.

The x-ray apparatus is made all in one piece, is simple in construction, and will do rapid work. The McIntosh Battery and Optical Co., Chicago, had on exhibition a Topler-Koltz static machine.

The exhibit of splints and splint-material by the Yucca Manufacturing Company, of Los Angeles, Cal., and Jackson, Mich., attracted a great deal of attention. The new material they use is fast taking the place of all other wood and more expensive splint-material. Yucca is porous, light, cheap, and practicable, and the doctors were told that surgeons who have used it long are loud in its praise. Sharp & Smith, of Chicago, the old surgical-instrument house, made a splendid exhibit of all the latest instruments, among them being the Harris instrument for collecting the urine from the kidneys separately. The Emil Willbrandt Surgical Manufacturing Company, of St. Louis, successor of the Holekamp-Moore Instrument Company, had a most attractive display of surgical instruments and aseptic hospital furniture. The articles shown had a finish and quality equal to the best made. The Bernstein Manufacturing Company, of Philadelphia, displayed a fine lot of aseptic hospital furniture, sterilizing apparatus and metallic bedsteads, and the J. Durbin Surgical & Dental Supply Co., of Denver, had a large and attractive assortment of surgical instruments as well as hospital and sick-room supplies. Leavitt's Invalid Lifter attracted attention from its ingenuity. Charles Truax, Greene & Co., Chicago, had a full line of surgical supplies, a formaldehyde generator, etc. The W. D. Allison Co., of Indianapolis, had a very fine exhibit of operating-chairs, operating-tables, instrument and medicine cabinets and invalid rolling chairs. Clark & Roberts, of Indianapolis, had a similar and equally interesting display of the same class of goods. The improved "Yale" surgical chair, manufactured by the Canton Surgical and Dental Chair Company, of Canton, O., was the center of attraction to many medical men admiring its range of movements, positions, ease of adjustment, and beauty. The representative of A. G. Spalding & Bro. told of the favor with which the Christy Saddle was received by physicians.

Mr. Fassett's journal exhibit stood at the end of the hall farthest from the entrance, and there visiting doctors were loaded up with samples of most of the leading medical journals of the United States. From this brief description the reader who did not attend may be able to picture to himself what the exhibition was like, and who contributed to this feature of the meeting.

PUBLISHERS' DEPARTMENT

VALUABLE TESTIMONIAL

The following letter speaks for itself:

Department of Public Safety, Bureau of Health,
Pittsburgh, Pa.

June 16th, 1898.

Fries Bros., New York.

Gentlemen: Replying to yours of recent date, I would say that this bureau has during the past year made a number of severe tests of the Trillat autoclave for the generation of formaldehyde gas from formochlorol, and found it to do excellent and efficient work.

By its use we have been satisfied that practically the whole of the formaldehyde gas is driven off without loss from polymerization, and in a dry state, both of which are important factors in this method of disinfection.

We have been so favorably impressed with this apparatus that we have purchased one, and another is about to be secured.

It is simple in construction, durable, and, judging from our experience, can be operated with safety.

We have experimented with a number of generators, but found the Trillat to be best adapted for practical and efficient disinfection.

Very truly yours,

(Signed) CROSBY GRAY,
Superintendent, Bureau of Health.

HAGEE'S CORDIAL OF COD-LIVER OIL

James V. Tabor, M. D., Hodgdon, Me., writes to the Katharmon Chemical Co.: "It affords me great pleasure to speak of Cord. Ol. Morrhuæ Comp. (Hagee's) as ahead of all cod-liver oils and emulsions that I have ever prescribed. It is really a cordial for young and old; and from the happy combination of its therapeutic properties it imparts benefit in every case for which it is recommended."

DIOVIBURNIA AND NEUROSINE

The Dios Chemical Co., of St. Louis, Mo., recommends the following formula in the treatment of all forms of neuroses peculiar to the female sex:

Neurosine 4 oz.
Dioviburnia 2 oz.

A dessertspoonful of this mixture is to be taken in a wineglassful of hot water every three hours.

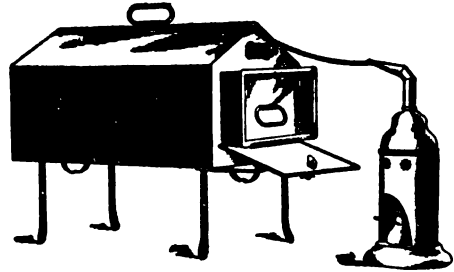
Literature concerning these remedies will be mailed to any physician on application to the manufacturers.

A NEW VEGETABLE ALTERATIVE COMPOUND

Modern practitioners are not content to await the tardiness of old-fashioned "physic," and the Resinol Chemical Company, of Baltimore, well-known as the proprietors of resinol, have contributed to the *Materia Medica* in providing cascana, a scientific combination of the active principles of *Cascara sagrada*, gentian, rhubarb, trifolium and rumex with phosphate of soda and magnesia. Cutaneous disorders are frequently indicative of disorder of the alimentary tract in some measure or other. The Elixir Cascanata corrects this disorder. It is also indicated in disorders resulting from congestions of the pelvic viscera.

FORMALDEHYDE STERILIZER AND VAPOR LAMP

The convenience, efficacy, and economy of formaldehyde as a gaseous disinfectant is now generally recognized. The apparatus which is shown by the illustration is designed for sterilizing surgical instruments, dressings, etc., by means of formaldehyde. In addition to being an inexpensive sterilizing apparatus for general practitioners, dentists, etc., parts are invaluable for other purposes. The generator is useful for interrupted or continuous deodorizing of sick-rooms. After exchange of a few simple attachments it may be



used for medicating vapors or applying steam heat locally.

When a small quantity of the commercial solution of formaldehyde has been put into the cup and the lamp supplied with alcohol and lit, dry gas appears in large volume within two minutes, and in less than ten minutes enough gas has been generated. The apparatus is being introduced to the profession by H. K. Mulford Company.

THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set—one hundred and sixty pictures—for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C., M. & St. P. Ry., Chicago, Ill.

"THE PIONEER LIMITED"

This is the name of the only perfect train in the world, now running every night between Chicago, St. Paul and Minneapolis, via the Chicago, Milwaukee & St. Paul Railway, the pioneer road of the West in adopting all improved facilities for the safety and enjoyment of passengers. An illustrated pamphlet, showing views of beautiful scenery along the route of the Pioneer Limited, will sent free to any person upon receipt of 2-cent postage stamp. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

Two score of medical practitioners of Chicago, Ill., met recently and protested that the State supervision of the profession is too severe, and formed a branch of the National Liberty League. The objects of the association will be to prevent legislation which, in the minds of the members, is derogatory to their interests, and to secure the enactment of laws which will protect unlicensed healers.

NEWS

Appendicitis has been very prevalent of late in Elizabeth, N. J.

It has been decided to make Key West a hospital center during the Hispano-American war.

The Government has paid more than \$1,000,000 for the two hospital-ships, the *Solace* and the *Relief*.

The American Medical Association will hold its next annual convention at Columbus, Ohio, on June 7-10, 1899.

The City of York, Pa., contains at present numerous cases of typhoid fever. The epidemic is confined to the city.

The public-bath question is now being agitated in Albany, N. Y. The Mayor believes "There is no imperative need of permanent public baths."

The recent convention of the American Medical Association, held in Denver, Col., was attended by over 1500 delegates, and about 2500 visitors.

Dr. Frank P. Graves, President of the University of Wyoming, has been elected to the Presidency of the University of Washington, at Seattle.

The Mercy Hospital, of Wilkes-Barre, Pa., has thrown open the private rooms of the institution to the entire medical profession of Luzerne County.

A society in Buffalo has just been incorporated under the name of "Buffalo Red Cross Medical Association," to furnish medical services to subscribers.

Surgeon-General Sternberg has taken the initiatory steps for securing a hospital train for the transportation of the invalided troops from the front.

The next meeting of the Maine Medical Association will be held in the City of Bangor on the first Wednesday, Thursday, and Friday in June, 1899.

Yellow fever has again broken out in the South. Seven cases have been discovered at McHenry, Miss. The town has been quarantined and all due precautions taken.

The Pasteur Institute of New York has removed its quarters from Ninety-seventh Street and Central Park West to the Ramapo Hills on the outskirts of Tuxedo.

The Southern Medical School and the Atlanta Medical School will soon be consolidated. The new college will be called "The College of Physicians and Surgeons."

The Cincinnati Academy of Medicine has protested against the newly appointed health-officer of the city (Dr. W. A. R. Tenney), charging that he is not a practicing physician.

Mrs. Leiter, of Chicago, Ill., has purchased the Chickamauga Park Hotel, at Crawfish Springs, to transform it into a hospital, and donated it to the Government for the use of sick and wounded soldiers.

The following colleges have been elected to membership in the American Medical Association: New Orleans University Medical School, Tufts' College Medical School, and University of Virginia.

The Homeopathic Medical Society of Wisconsin has demanded, in State convention assembled, a more complete and open recognition by the

United States Government of its particular school of medicine.

St. Luke's Hospital, of New York, and the Kings County Hospital, of Brooklyn, have set apart a ward for the free use, during the war, of men of the army or navy requiring medical or surgical treatment.

According to the *New York Tribune* the Denver convention refused to admit the New York State Medical Association because the latter "does not accept the code of ethics of the American Medical Association."

Owing to his duties as Surgeon-General of the United States Army, Dr. Sternberg was unable to be present and read his presidential address before the American Medical Association. Dr. Woodhull delivered the President's address.

At the convention held recently at Denver, the trustees of the American Medical Association voted \$10,000 toward the fund created three years ago for the erection of a building in Chicago, to be known as the Home of the Association.

The Mount Sinai Hospital, of this city, is to be sold. The trustees have purchased a plot of ground occupying almost the entire blocks from Madison to Fifth Avenues in One-hundred-and-first Street, where a handsome hospital will be erected.

The following professors of Bellevue Hospital Medical College have tendered their resignations: Dr. Austin Flint, Sr., Professor of Physiology; Dr. F. S. Dennis, Professor of Surgery; and Dr. Samuel Alexander, Professor of Genito-Urinary Diseases.

The annual report of the original Pasteur Institute has just been published in Paris. It states that in 1897 1521 persons received "preventive treatment" against rabies, and that, apart from two persons who died before it was completed, six deaths occurred, the mortality being not quite 40 per cent.

The American Medical Association, at its meeting in Denver, adopted the following resolution:

Resolved, That the American Medical Association gives notice that hereafter no professor or other teacher in, or graduate of, any medical college in the United States, which shall after Jan. 1, 1899, confer the degree of Doctor of Medicine, or receive such degree on any condition below the published standard of the Association of American Medical Colleges, shall be allowed to register as either delegate or permanent member of the Association.

The following officers were elected by the fifty-first annual convention of the American Medical Association: President, Joseph McDowell Mathews, of Louisville; First Vice-President, W. W. Keen, of Philadelphia; Second Vice-President, J. M. Graham, of Denver; Third Vice-President, H. A. West, of Galveston; Fourth Vice-President, J. E. Minney, of Topeka; Secretary, W. B. Atkinson, of Philadelphia; Treasurer, Henry P. Newman, of Chicago; Librarian, G. B. Webster, of Illinois; Board of Trustees, Alonzo Garcelon, of Maine; I. N. Love, of St. Louis; H. I. E. Johnson, of Washington, D. C.; and T. I. Hoppie, of Tennessee; Judicial Counsel, S. S. Bailey, of Iowa; D. R. Brower, of Illinois; T. S. Davis, of Illinois; H. D. Didama, of New York; N. M. Mason, of Washington; T. T. Rogers, of Rhode Island; M. B. Burd, of Missouri; and W. S. Jones, of New Jersey. Lecturers for 1899 on Medicine J. C. Wilson, of Philadelphia; on surgery, Floyd McCrea, of Atlanta, Ga.; on State medicine, D. R. Brower, of Chicago.

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EDITORIAL

THE DENVER MEETING OF THE AMERICAN MEDICAL ASSOCIATION

IT is no easy matter to judge honestly and correctly of the exact gain or value that accrues to mankind from the work done at an annual meeting of a national representative body like that of the American Medical Association. To write, off-hand, several pages of fulsome praise of those present and offering papers who were deemed friends, or to vent words of disapproval and dissatisfaction against everything written or said by those disliked, would be an easy task. Editorial work of such a character is only too common, but in the long run it always brings discredit if not disgrace upon its authors. Even an unbiassed statement of opinion is not always enough. Unless such a statement is founded upon just and reasonable principles it can have no weight with the best minds, as they readily perceive that the pen that writes it is only reflecting the distorted mental condition of the writer and not the truth of the subject about which he writes.

The American Medical Association was invited to Denver because it was a pleasure to the medical men of that region to receive their fellow practitioners from all over the Union as their guests, but it was also invited there because the people of Colorado wished to advertise the healthfulness of their climate among the medical men of the United States, so as to persuade them to

send their wealthy and well-to-do patients to augment the population of the State. This idea was expressed in a humorous manner by Governor Adams, who in his address of welcome said: "We welcome you for the friendship we hold for you as an association and as individuals; but there is incidentally a profit and a gain that come to Colorado. Notwithstanding the vagaries and peculiarities of our climate during the last few days, I still insist that our climate is our greatest resource. It is of superior quality, and as you know, infinite in variety. . . . While we have this climate to sell, we recognize that there are no better agents to exploit it and advertise it than the fifteen hundred intelligent physicians of America assembled here to-day." It is certain that the members of the Association had a large amount of pleasure at a small cost, as a result of the desire everybody manifested toward having them go away pleased with the region. The impression thus produced is quite likely to be a lasting one, and in many as yet unforeseen directions much good is sure to result. Colorado may not get quite as many emigrants from it as she hopes for, but the nation as a whole has become the better for the feeling of good will engendered. In this direction at least the meeting was a success.

When we turn to the so-called scientific work of the sections and inquire regarding its possible good, with much of it there might be room for an honest difference of opinion. If we could judge its value by its

volume there certainly could be no cause of complaint. Never before was there such a deluge of papers. The vast majority had to be read by title and passed over to the publication committee without comment. Some of them were poor, some fair, some good, and a very few reached that standard of excellence that should be expected of the members of a truly scientific organization. There is evidently little appreciation among some of the writers of what constitutes a scientific paper. Their authors evidently believed that those produced by themselves were fully up to a true scientific standard. They no doubt took great pains, and showed in their manner that they deemed the product first-class in every particular.

It will be some time before every one learns that it is impossible to produce a paper of much value until we have mastered in detail nearly all that is known upon the subject about which we write. We must know the latest pathological and physiological discoveries that have been made, having any bearing upon it. We must clearly comprehend all that is being done in that direction in all parts of the world at the moment of writing. Imagine for a moment a person wholly ignorant of the construction and working of a dynamo, steam-engine, telephone, or electric light trying to enlighten experts upon these machines or claiming ability to improve them materially, and we have a perfect simile of the writer of a medical paper who is not abreast of all the work of the world in the direction which his thesis pretends to follow. All that he believes he has discovered is either old or arrant nonsense. If this truth could be forcibly impressed upon the minds of those who contribute to our medical journals or who write papers to be read at national, State and county medical societies, there would be less time wasted in hearing over and over again rehashes of practically the

same kind of information as we could find in far better shape in any one of a multitude of text-books on the subject.

A paper that goes in advance of our text-books and sums up the latest knowledge we have acquired on any subject is one that we can call good. If it seeks to establish a previously unperceived new principle which the most newly discovered facts imply, then we can justly call it better. If it goes beyond this and presents a report of original experiments that are crucial tests of the validity of the claimed new principle, then we need not hesitate in pronouncing it best.

Every paper presented to the American Medical Association should aim at reaching at least the lowest of these three standards. Anything short of this is unworthy of the occasion, and yet the vast mass of all that has been presented from year to year has been below the lowest. This is not only true of the American Medical Association, but it is equally true of most other medical associations in all parts of the world. It is time some effort was made to improve this state of affairs, and if all those who are conscious of it would lend a hand at demanding a higher standard, great good could be accomplished. At the Denver meeting there were in some sections a few papers that reached our lowest standard, a still smaller number that approached our second standard, and not one that came up to or approached our third. Notwithstanding this, the showing was a very creditable one when judged by less exacting standards or when compared with the past.

THE ADDRESSES

THE address of President Sternberg, was read at the Denver meeting of the American Medical Association by Dr. Woodhull, of the United States Army, owing to the absence of its author because of his duties in the Hispano-

American war. It and the address on Medicine, by Dr. Musser, of Philadelphia, and that on Surgery, by Dr. Murphy, of Chicago, which we shall publish in future issues, were exceedingly instructive, interesting, able, and valuable papers. That of Surgeon-General Sternberg is less coherent in its parts than it probably would have been but for the immense pressure of his duties in our nation's present struggle. It is really remarkable that he was able, under such a strain, to write so thoroughly up-to-date a paper for the occasion. That of Dr. Musser leads the reader along somewhat similar lines of thought to those followed by Dr. Sternberg. As a literary production it is a model of neatness, clearness of statement and directness of argument. Both of these papers take the reader over ground so new that the latest text-books have not recorded some of the matter referred to.

Dr. Sternberg's reference to the official report by Loeffler and Frosch of their investigations on foot-and-mouth disease, made for the German Government, is an example of this. There were probably not half a dozen persons present at the reading to whom it was not entirely new. Now most of them will go home remembering that we have at last reached a clew that is likely to lead to the discovery of the etiology of small-pox, measles, scarlet fever and other diseases that heretofore have eluded scientific research. This evidence of ultra-microscopic organisms that Norcard and Roux have likewise confirmed by their study of pleuro-pneumonia is very startling in its significance.

The burden of Dr. Sternberg's paper, however, was not so much to show what science had done and is doing for medicine as to point with his facts a moral that he hoped the members of the American Medical Association would take to heart. Unfortunately the majority of those present failed

to see the matter as he did, and therefore failed to sympathize with his aim. He sought to make them as liberal and as enlightened as science itself, a thing that cannot be accomplished in a day, and may require many years. Seeing, as he does, the danger that lies in a divided medical profession, he anxiously sought to do something toward the work of unification. The whole work of scientific medical research is going to be stopped, and scientific medicine brought to a standstill by ignorant sentimentalism unless medical men show a united front in its defense. Men who, like Sternberg, have been brought face to face with the facts in this threatening danger foresee defeat lurking in the petty squabbles of a few medical politicians concerning an insignificant point of ethics. He therefore anxiously seeks to cement the bonds of friendship and fellowship between all who are with us heart and soul in the great battle that is sure sooner or later to be upon us. He points out that we are building up "the new school of Scientific Medicine," while in our very ranks there are still "old-school doctors" whose practice is as wide of the new as is anything known among irregulars. He shows that outside of ignorance and quackery there can be no creeds and no pathies in medicine, any more than in astronomy, geology, or botany. Where there can be scientific certainty there is no place for opinion, and where this is lacking every man is entitled to hold such opinions as he chooses. He has implicit faith in knowledge as the correct cure for differences of opinion, and would seek to unite all educated, intelligent men on it as a basis.

Dr. Murphy's address on "The Surgery of the Lungs" was probably the most perfectly scientific paper of the whole meeting, and should future research confirm its principal claim it will prove to be one of the most important of the century. It is a sad

pity that it was seized upon by the harpies of yellow journalism as the basis of a sensation.

They are likely to bring it into discredit and disrepute before they let go of it. They have always succeeded in doing so with whatever they have taken up of a medical character. Science and exaggeration make poor bedfellows, and the public soon come to discard with disgust what they have, through misrepresentation, seized with avidity. It is only a matter of time till that which is badly misrepresented at the beginning becomes grossly neglected at the end.

However true Dr. Murphy's claim may be it can never prove successful as a plan in the hands of the stupid and the ignorant who are pretty certain to be among the first to try to exploit it. Should it meet such a fate Dr. Murphy's name will suffer a sad reverse. He owes it to himself as well as medical science to try and stop this rising tide of pseudo-popularity before it submerges him.

His proposed new operation for pulmonary tuberculosis is reasonable and in proper hands likely to prove of great value, whether it meets the expectations held out regarding it or not. He has fairly met the objections that are likely to be brought against it.

The tests already made have been successful. Every principle involved is old, well known and reliable. His operation of artificial pneumothorax, by which he brings these principles into play by aid of injections of nitrogen gas is exceedingly ingenious and new. If performed under the direct care of skilled diagnosticians and surgeons there can hardly be a question of its success in a majority of cases, but no plan, no discovery, no invention of any kind can ever benefit the sick if tried by bunglers and incompetent pretenders.

AMONG THE EDITORS

THE QUESTION OF ETHICS AND INCOME

It would be interesting to know just what mental processes the practitioner goes through, who, after an honorable admission to the ranks of the medical profession, and after, perhaps, years of association therein, turns his back upon these fellow practitioners to join the ranks of those who resort to unethical methods for obtaining business. Were we able to do this we do not doubt that in most cases we would find that there had been a hard struggle before such a course was taken; that often it was the only step which seemed to promise a living income, and that it was made in the desperation which an otherwise failure in practice had brought about. Undoubtedly younger practitioners have pursued their medical course with the secret, if not the avowed purpose of adopting the methods not recognized by the regular profession, but which seemed to promise the quicker acquisition not only of a supporting income but of wealth. But others may enter the ranks with high hopes and firm resolves to practice medicine according to the loftiest ethics, and it is only when brought face to face with the fact that their attainments have not brought them the practice they feel they deserved, that they contemplate severing themselves from the regular ranks and resort to those methods typical of the impostor or quack.—*Columbus Med. Jour.*

THE EFFECT OF THE EMPLOYMENT OF WOMEN UPON INFANT MORTALITY

The fact that long hours of labor under unhealthy surroundings are pernicious to the young both morally and physically is patent to everyone, but there is another point of view from which the employment of women should be regarded. That is its effect upon infant mortality. This is a matter which it is difficult, almost impossible to gauge in all its bearings. An attempt to get at the root of the evil has lately been made in great Britain, by a Miss Callet, who has given the results of her efforts in a paper based upon an analysis of the statis-

tics of the occupations of females in the United Kingdom. It is freely admitted in this paper that the whole question of the employment of married women cannot be settled by statistics, and many points bearing upon the subject have been passed by, but the important question of how far the health of infants is affected, by the employment of their mother, is fully entered into and many interesting facts are brought to light. It has always been the popular belief that the highest rate of infant mortality is in those districts where women are most largely employed in outside work, but according to Miss Callet such is not the case. She, from the result of her investigations, is of the opinion—while admitting that the employment of women with young children is an obvious evil—that the factory employment of women is not the main cause of the excessive rate of infantile mortality in the industrial centers. The growing number of premature births had been attributed to the increasing employment of women. It is, however, pointed out that in the purely agricultural counties of Eastern England the death-rate from this cause was higher than in any other part of the country.—*Pediatrics*.

NATIONAL FOOD-LAWS

Efforts on behalf of national legislation on food-adulteration are at present very active. The regulation of the quality of foods is often associated with the regulation of the quality of drugs. By this extension a wide field for discussion is opened. Primarily, the object of such drug-laws should be to ensure that the purchaser shall get what he wants. Questions of wholesomeness do not come into consideration. The sale of drugs likely to cause injury by accident or to be used for malicious or immoral purposes should be controlled through other channels. In practice, however, a strong tendency toward paternalism is often noticeable. The regular medical profession is opposed to secret remedies. Educated physicians know that preparations claiming to be cure-alls are frauds, and, moreover, that the most widely sold nostrums are either well-known prescriptions sold at a much higher figure than the same could

be obtained from the apothecary, or depend for their popularity on the presence of a considerable proportion of alcohol, put up in a form attractive to the palate. With the knowledge of the deception and injury thus caused, it is not unnatural that an effort should be made to expose the "fake" by compelling the publication of the principal ingredients of the preparation. Such requirements, however, enlist the most active opposition of the manufacturers of these medicines, who bring to bear not only their personal effort, but almost the whole newspaper press.—*Dietetic and Hygienic Gazette*.

THE NEURON

We are glad to see that Prof. Michael Foster, assisted by Prof. Sherrington, has recently brought out a new edition of that volume of his text-book which deals with the central nervous system, and that in it he has embodied some of the principal results of the chrome-silver and methylene-blue methods of staining.

We looked with interest to see what stand he would take with regard to the nomenclature of the nerve-cell, which has been getting somewhat confused. He follows Waldeyer in applying the term "neuron" to a complete nerve-cell, including its processes. He divides the neuron as follows: 1. The nucleus. 2. The cell-body, for which he proposes the term perikaryon. 3. The processes.

He divides the programme into: 1. The axis-cylinder process, which may also be called the neuraxon or simply the axon; it is usually single, and forms the axis-cylinder of a nerve-fiber. 2. The so-called protoplasmic processes, or, as he prefers to call them, the dendrites. Of these most cells have several, and, after a short course, they usually end in branches quite near the cells. He tells us that the dendrites usually carry impulses into the cell-body, while the axons conduct away from the cell. He describes the usual ending of the axon in an arborescent tuft (the "end brush" of some writers) in the neighborhood of the body or dendrites of some other cell. For this relation between the axon of one cell and the dendrite

or body of another cell he proposes the term "synapsis."

We hope that these or other suitable terms will soon be accepted and uniformly used by all writers on the subject, as at the present time it is often hard to know what significance an author wishes to be attached to the terms he makes use of. This state of affairs may, in part at least, be traced to a presidential address by Professor Schaefer at the annual meeting of the Neurological Society in 1893. In that address he took issue with Waldeyer on the latter's use of the word neuron for the whole nerve-cell, and expressed himself in favor of applying the term to the axis-cylinder process alone.—*Montreal Medical Journal*.

NEWSPAPER MEDICINE

A great many medical journals have something to say about the practice of the lay press publishing alleged facts about wonderful medical cases and surgical operations, and in truth the medical habit of newspapers is something to be marveled at. Whenever these things are touched upon by newspaper writers the statement nearly always accompanies them that the doctors were puzzled, or there never was another instance of the kind on record, and then follows an elaborately written and illustrated article to suggest that there had been a medical inspiration in the matter, but that the filtering reporter was not able to retain the essential facts and language for record and therefore made what is known as "a bluff at it," with the usual ridiculous results. In many instances the name of a medical light appears, or one is quoted, often the operating surgeon or attending physician. At any rate the things treated of oftentimes have never been heard of before, and certainly never so presented to the public. In this city we have several Sunday newspapers which are wonderfully interesting as quasi-medical journals, and one evening journal with a therapeutical department.

Talking about therapeutical departments reminds us of the great department-stores. Some of them have drug-departments with a physician or dentist attachment; also occasionally a lawyer on tap. Medical and

legal, or any other kind of advice, we are told, may be had for a small fee, or as a chromo upon purchasing a certain amount of goods. They are wonderful, these fin-de-siècle improvements.—*Med. Examiner*.

GRATITUDE

Webster has defined the word gratitude as meaning "A warm and friendly feeling toward a benefactor; a kindness awakened by a favor received." The temper of the human mind is such that apparently it can make no distinction between gratitude and obligation. Either the natural sense of obligation toward a benefactor or the result of custom which recognizes the obligation of the beneficiary, makes the conditions of gratitude and obligation inseparable. The greatest benefits which may be conferred upon a deserving friend are often sources of the greatest annoyance to him on account of the obligation which he feels has thereby been imposed upon him. Gratitude to a friend when the obligation is easily cancelled is usually a pleasant possession; but on the other hand, when the obligation is great no greater injury could be done the friendship. How often the physician is forced to realize this. Many times when he knows that he is rendering his patron a lasting service and one for which he feels the recipient should be forever grateful, he may be pained and surprised to find instead an unexplainable aversion and opposition.

It requires the highest degree of manhood to withstand the temptation to shirk great obligations and to repudiate the debt by an exhibition of ingratitude. That these are facts most every physician has good reason to believe. It is therefore a protection to himself and a favor to his friends to invariably charge a reasonable fee for every service rendered. No ties of friendship or relation should change this rule if a continuation of pleasant relations is desirable.—*Kansas Med. Jour.*

A LAYWOMAN'S CRITICISM

It is seldom that the laity feel called upon to publicly criticize the methods of medical practice. Medical progress and the benefits of it have reached the laity only

through the medical profession. In consequence of this, doubtless, there has seemed to be a tacit submission to the judgment and will of the doctor, in the acceptance of which the judgment of the patient is usually suspended, or merged into that of the doctor. It is well this is so. A realization of the full benefits of medical service demands the maintenance of this attitude.

The experience that one laywoman, Mrs. R. M. King, had in taking chloroform a number of times, gave her the cue as to its proper administration. This in the light of its general use and occasionally unfortunate effects has incited her to revolt against the manner of its administration to her in England. It appears from her article in *The Nineteenth Century* for March that there it was given her undiluted with air and the pad closely clapped over her mouth while still partially conscious, causing her to struggle frantically against the burning and choking effects of the chloroform. After quoting at some length from the report of the Hyderabad Commission concerning the criterion of respiration and its non-interference during anesthesia, and contrasting with it the pulse-criterion method, she says, "that, having myself taken chloroform, more than once, under each system, I can from my own experience testify that under the one method there is nothing to excite or distress the patient, while under the other he is made to taste the very bitterness of death."—*Physician and Surgeon*.

THE PROTEAN FORMS OF TUBERCULOSIS

Thanks to bacteriologists and pathologists our ideas concerning many diseases are greatly changed from the opinions of the last generation. As a result of the development of these two sciences the supposed relationship of many diseases and their classification have been modified to a considerable extent, and with two opposite effects. Distinct diseases like gonorrhea, chancroid, and syphilis, associated in origin and frequently assumed to be related forms of the same disease, have been thoroughly differentiated. So, too, sarcoma and actinomycosis hominis, though symptomatically similar and pathologically nearly identical,

have revealed their distinguishing characteristics. On the other hand apparently dissimilar affections like psoas abscess and lupus have been shown to be only different manifestations of the same disease. For our knowledge of tuberculosis we owe much to these sciences. The several articles in this issue, comprising the symposium on the subject of tuberculosis, indicate the far-reaching effects of the tubercle bacillus. In the recognition of the cause, the symptoms, and the diagnoses of these conditions we have made great progress. Furthermore, the determination of the primary and secondary forms of the disease by the microscope and the needle has become possible and often materially modifies the prognosis. In treatment we have progressed also, and yet we must frequently admit our helplessness. Surgery is able to do much more than ever before, and yet it has its limitations. From serum-therapy we have had a degree of encouragement. In the absence of a more specific antitoxic remedy preventive medicine offers our greatest resource against this hydra-headed disease.—*Physician and Surgeon*.

ON DIAGNOSIS

It is the clinician's duty to recognize every abnormal condition presented by a patient and the probable pathologic causes. Refined diagnosis goes still further—it makes clear the interdependence of various morbid states presented by one patient. An individual may have two distinct diseases at the same time; much more frequently the several conditions arise in sequence, one causing another, or all may be due to one underlying morbid process. We have known three clinicians of world-wide reputation make the diagnoses respectively: Valvular heart-disease, abdominal aneurism, organic disease of the spinal cord, in the same patient; not one recognized the three conditions present or the fact that general arterial disease was the underlying evil. Accurate treatment follows naturally upon accurate and ultimate diagnosis. In other cases, if accurate, the treatment is accidental.—*Phila. Med. Jour.*

CURRENT TOPICS

A VERY SENSITIVE TEST FOR BILE-PIGMENT IN THE URINE

Drs. Krokiewicz and Batko describe (*Wiener klin. Woch.*, No. 8, 1898) a very delicate test. Three reagents are necessary: (a) A 1-per-cent. aqueous solution of sulphanilic acid; (b) a 1-per-cent. aqueous solution of sodium nitrate, and (c) pure concentrated hydrochloric acid. The reaction may be performed in three different ways.

1st method. Shake 1-2 a dr. (2 c.c.) of each of the reagents *a* and *b* with 2 to 5 drops of urine; if bile-pigment be present, the mixture becomes ruby-red, changing to amethyst-violet on the addition of 1 or 2 drops of HCl. 2d method. Shake a few drops of reagents *a* and *b* with a few drops of urine, and 1 drop of HCl, a deep violet color results. 3d method. A few drops of reagents *a* and *b* are shaken in a test-tube and then thrown away; on pouring into that test-tube 5 c.c. (1 1-4 dr.) of urine, a ruby red results, changing into amethyst-violet on the addition of hydrochloric acid.

R.

THE HYGIENE OF THE JEWS

Dr. Charles Long (*Good Health*, Vol. XXXIII, No. 4, 1898) says that Judaism has made religion the handmaid of hygiene, it has utilized piety for the preservation of health. The first great step in primitive medicine was taken many centuries ago, when Moses gave to the Hebrews their laws of physical and moral life. He believes that no other religion takes such precautions for the health of its followers, and states that statistics comparing the length of life of the Jew and the Gentile neighbor are decidedly in favor of the former, this advantage being the direct result of his religion and its rites.

Especially strict were their laws pertaining to the ingestion of contaminated meat. The Mosaic law permitted the consumption of meat of those animals only that are both cloven-footed and chew the cud; all others are called unclean. Specially mentioned as forbidden are the pig and the hare. Of all animals that live in water only those which have both fins and scales were permitted. This law excludes oysters, clams, lobsters, and crabs. The Jew is not allowed to eat the blood of any animal or those parts that consist entirely of fat.

Was Moses not wise, the author asks, in permitting only certain animals as food and forbidding all others? When we consider

the warm climate in which the Jews of those days lived, and the rapid decomposition which takes place in fat, in blood, and in pork, was the forbidding of these not a good sanitary measure? In excluding pork from the diet-list who can doubt that Moses was cognizant of the dreadful affection trichinosis? In excluding oysters, clams, lobsters, crabs, etc., would it not be reasonable to suppose that Moses knew that some skin-diseases were due to the ingestion of these unclean foods? S.

MUSHROOM-POISONING

Circular No. 13, of the Division of Botany, United States Department of Agriculture, written by Mr. F. V. Coville, Botanist of the Department, is entitled "Observations on Recent Cases of Mushroom-poisoning in the District of Columbia," and is of unusual importance. As the circular may be had upon application to the department, only its general character is here noticed. It gives brief accounts of a number of edible and poisonous fungi in the vicinity of Washington, and is accurately and beautifully illustrated by twenty-one cuts, taken chiefly from photographs made by Mr. A. J. Pieters. The following general advice given by the author as to the eating of unknown fungi is well worth quoting:

"Many kinds of fleshy fungi are without question delicious and highly nutritious foods, while the gathering of them is an exhilarating pastime. A novice who proposes to gather mushrooms for himself should never use a species for food until he has found out positively its name and its non-poisonous character. He should then familiarize himself with this species until he knows it from all others as certainly as he knows the cabbage, the turnip, the cauliflower, or any other of our common vegetables. He should confine himself rigidly to this his personal edible list, and should add to it only as thus recommended. His authority for the name and qualities of each kind he adds to this list should be some person having an unquestioned expert knowledge of mushrooms. There is no single test and no safe series for poisonous mushrooms. The poisons contained in the various species are extremely diverse in their physiological effects and their chemical composition. In the District of Columbia occur at least thirty good-sized edible species, at least four species known to be poisonous, and several more that are suspected of being poisonous. Regarding these suspected species, we shall never know the actual facts until some one has been poisoned by them or till experiments are made on animals to ascertain their physio-

logical effects. Botanists, who from long training in the discrimination of plants possess the faculty of distinguishing readily between related species, will easily avoid the error of mistaking superficial resemblances for the real characteristics of the different kinds, and may be trusted in the identification of mushrooms, if they have studied that group of plants. If there is a mushroom club in the community, every one who proposes to become a connoisseur in mushrooms should join it. In the District of Columbia a recently organized association known as the Washington Mycological Club is recommended. Membership in such a club and a proper use of the facilities afforded by it should prevent the mistaking of a poisonous for an edible species." J.

THE DIASTATIC POWER OF THE SALIVA

Within recent years a number of observers have claimed that the diastatic power of the saliva was found to be in a number of small round morphological elements. The authors, Bocci and Mosencchi, have been testing this, and come to different conclusions, *Arch. Ital. de Biol.*, Vol. XXVIII, p. 72. They centrifuged the salivary secretions and thus were able to separate the morphological elements. These they found had no diastatic action whatever, whereas the fluid portions acted in the usual manner. They thus believe that they have definitely settled the question that the enzyme is in solution. J.

SLEEP FOR CHILDREN

Some remarkably interesting treatises (Editorial comment, *Pediatrics*, Vol. V, No. 2) have been recently published relating to the scientific phenomena of sleep, in which the opinion is held that too much sleep is decidedly harmful, and that the majority of people indulge in the habit to a greater extent than is good for them. Their views, as expressed on the subject in regard to children, are both instructive and novel, and in brief are somewhat as follows: "That even infants at the breast are allowed too much sleep; that they need not only time for sleep but time to be awake if their intellect is to be awakened. It is argued that even during the first four or six weeks of life there ought to be two waking hours during the day, and as the body grows the duration of wakeful period should gradually increase. All methods of putting children to sleep artificially by monotonous sensations are strongly censured, including the crowing of lullabies and the rocking of babies in cradles or simply in the arms.

The approximate period of sleep necessary for children at different ages is given as follows: Between the ages of 1 and 2 years there should be from six to eight waking hours; between 4 and 6 years, nine to eleven waking hours; between 9 and 13 years, fourteen to sixteen waking hours. There is much common sense in the foregoing, but there is also a tendency to rather unduly press the point as to the harmfulness of oversleeping, particularly in the case of very young children. It is no easy matter to fix the amount of sleep by any hard and fast rules. L.

NEW AND RAPID PROCESS OF DOUBLE-STAINING BLOOD

La Sem. méd. (No. 11, p. 86, 1898) takes from *Cronica méd.-quir. de la Habana* (Vol. XXIII, p. 23) the following process of Garcia Rigo which he has successfully employed for some time for rapid double-staining of blood. A drop of blood on a cover-glass is diluted with a drop of simple bouillon (kept sterile by a little formol), the two being stirred till mixed by a sterile platinum wire. The cover-glass is then rested on the end of a slide and carefully warmed over an alcohol-flame for less than a minute. Eosine-stain is next used and washed with water; then methylene-blue and washed again. The specimen is then dried and mounted in Canada balsam, the whole process being accomplished in five minutes under favorable circumstances. H.

Tonsils and Adenoids as Causes of Malformed Maxillæ and Irregular Teeth

Wm. A. Mills (*Jour. of Am. Med. Assn.*, pp. 980-1, April 23, 1898) states that from observation of twenty-five years he has found that any inflammatory lesions in children of 4 to 12 years that obstruct the nasal or oral passages are the chief agents in causing malformed jaws and abnormal alignment of teeth.

A child of 7 brought to him to have a tooth filled for relief of pain in right ear and right angle of inferior maxilla, was found to have almost complete obstruction of the nasal cavities; the face was pale, anemic and haggard. A small cavity in a molar tooth was filled without relieving the pain. Depression of the tongue showed enlarged tonsils almost touching in the median line, from one of which pus flowed out on introducing the depressor, causing relief of the pain. The patient was sent to a rhinologist, who removed the adenoids and reduced the tonsils. The child in six months was a bright, rosy-faced boy. H.

ORIGINAL PAPERS

NEW REACTIVE REMEDIES *

By DR. E. KROMAYER,

Privat Dozent at Halle A/S

SO many new remedies appear monthly, only to disappear again, that I feel obliged to beg your indulgence in behalf of my paper in advance. And I hope you will not refuse me this when you learn that these are not new remedies that I am about to bring to your notice, but well-known, well-studied ones, which have only been decked in a newer chemical dress, to be enabled more conveniently, certainly, and rapidly to exert their action than of old. The remedies in question are pyrogallic acid, chrysarobin, and resorcin.

In the twenty-second lecture on general therapy in my *Allgemeinen Dermatologie*, I have theoretically considered the *modus operandi* of the so-called reducers. I have shown that the reducing, i. e., healing property of a remedy is generally accompanied by one that is irritant to the skin and undesirable, and often directly hinders the cure; I have shown further that the remedies soluble in water, in general more readily irritate the skin than those which are insoluble, and also that the soluble ones, when in solution, more readily cause inflammation than when not in solution. As examples may be cited on the one hand metallic mercury and sulphur, and on the other hand corrosive sublimate and ichthyol (which is active on account of its sulphur-content).

While mercury and its precipitates exert an excellent reducing effect on syphilitic infiltration, acne, etc., corrosive sublimate in aqueous solution is not employed for this purpose.

These theoretical considerations lead to the idea of converting the water-soluble remedies, pyrogallol and resorcin, into insoluble forms, thereby imparting to these preparations a somewhat contrary character, such as exists between metallic mercury and corrosive sublimate. This is possible, however, exactly as in the case

of mercury and sulphur, only by combining these substances with other chemical bodies. But, by this means new substances are found which, in order to be effective, must possess the property of dissociating into their chemical components on contact with diseased skin, so that the liberated components—chrysarobin, pyrogallol, and resorcin, respectively—are enabled to exert their effects gradually and *in statu nascendi*.

Should it be possible to prepare such new substances synthetically, it would immediately follow that, by their means, not only would the soluble, but so also would the insoluble remedies sustain an improvement and increase in their curative properties.

We know that the reducers, in strong concentrations, more readily induce inflammation than in weaker, without in equal measure losing any of their reducing, curative action. This latter is even frequently obtained when the remedy is applied in very weak concentrations, for instance, by chrysarobin, in 1-4 to 1-2 per cent. ointment. Hence, a continuous yet gentle, and mild action is desirable, while a rapid, immediate, and vigorous action is to be avoided.

The object in view is, however, much more easily obtained, not by applying lower strengths of the remedies in their uncombined form, but by employing them in chemical combination with other substances, from which the active constituent is only gradually liberated, and thereby enabled to exert its effects most gently yet persistently.

These were the theoretical considerations that led me some nine months ago to interest Messrs. Knoll & Co., of Ludwigshafen, regarding the synthetical preparation of such substances. Their chemist, Dr. Vieth, who from chemical considerations had simultaneously, though independently, arrived at the same theoretical conclusions as I, therefore prepared a great number of serviceable medicinal substances, which, I may say in advance, most astonishingly confirmed our anticipations.

Before discussing these new bodies, I wish to make a few remarks concerning the much-used word, "reducers." The term is

* A Paper read at the Sixth Congress of the German Dermatological Society.

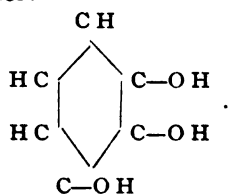
employed, as you are aware, in two distinct ways; in the well-known chemical sense, and also in the medical sense as a curative, in restoring chronically changed tissues to a normal condition. On this account there exists confusion, and particularly the impression that these two properties, which are common to certain of the remedies, are identical, which is not the case, however.

I take the liberty, therefore, of proposing the term, "reactives," instead of the word "reducers," taken in a medical sense; that is, remedies in contact with which living tissues suffer a reaction, inflammation or retrograde metamorphosis, in contradistinction to indifferent remedies which have the effect of quieting the tissues, and which I have hence termed "sedatives."

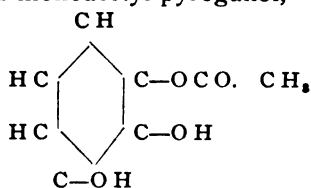
PYROGALLOL DERIVATIVES: LENIGALLOL, EUGALLOL, AND SALIGALLOL

Let us now consider the pyrogallol derivatives which are chemically the simplest, and the chemistry of which I shall briefly touch upon. They are prepared, as are the other derivatives, with acids.

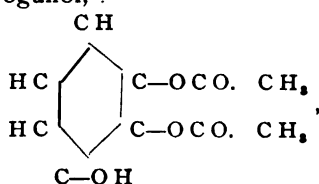
Pyrogallol is a benzene with three hydroxyl groups, all of which may be replaced by acid radicles:



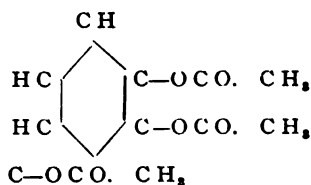
According as 3, 2, or 1 of the hydroxyl groups are replaced by acid radicles, different bodies are obtained. For instance, 3 acetic-acid compounds of pyrogallol may be obtained, a monoacetyl-pyrogallol,



a diacetyl-pyrogallol,



and a triacetyl-pyrogallol,



These three bodies differ, not only chemically, but in their effects upon the skin. Pyrogallol monoacetate, or "Eugallol," forms a syrupy, scarcely fluid, transparent, dark-yellow mass, easily soluble in water; pyrogallol diacetate occurs as a white powder which is difficultly soluble in cold water, but which is rendered readily soluble by the addition of alkalis; and pyrogallol triacetate, or "Lenigallol," forms a white powder which is entirely insoluble in water, and which is only gradually dissolved on warming with aqueous solutions of alkalis with decomposition.

These chemical differences have their corresponding differences in the effects of the remedies on the skin. Lenigallol (lenis-mild), or the mildly active pyrogallol preparation, is almost without action on healthy skin, ointments containing even 50 per cent. (with lanolin) causing no irritation when applied under a bandage. Only when a strongly alkaline perspiration is secreted by the skin does a partial decomposition of the lenigallol take place, readily recognizable by blackening of the ointment when lenigallol with zinc paste (Lenigallol, Pasta Zinci, Lanolini, two drachms) is applied. This decomposition takes place also on the diseased skin, and hence on a skin changed by psoriasis, and particularly in cases of chronic, subacute, and acute eczemas. Lenigallol acts, therefore, through its pyrogallic acid, only on the diseased skin-surfaces, whereas the healthy parts remain entirely unaffected by it. It consequently fully answers the theoretical requirements above noted.

Psoriatic changes, when not too deeply seated, are more rapidly cured by ointments containing a high percentage of lenigallol, than by the 10-per-cent. pyrogallol ointment usually employed, while all eczemas, even the most acute (excepting only those due to direct irritation), are wonderfully rapidly cured by ointments containing a

small percentage of lenigallol (lenigallol 0.5,—5, Pasta Zinci 100). Particularly in the acute eczemas of impetiginous, crusty, moist character, in which all irritating reactives are considered as being contraindicated, is the mild and selective curative property of the pyrogallol triacetate the most advantageous.

A further advantage of lenigallol, and one not to be undervalued, is its non-poisonousness. Since the pyrogallol acid is liberated only at the diseased parts, and then only in minimum quantities, absorption of pyrogallol in large quantities is impossible. I have treated a great number of cases of extensive psoriasis and eczema with lenigallol ointments of high percentage, at first cautiously, and later on more boldly, but without observing the slightest symptom of poisoning.

In the little time here allowed for a paper, I must omit to cite histories of cases treated. It will suffice, however, to state that my experience with lenigallol is based on its use in 100 cases of eczema, among which were a number of serious, constantly relapsing ones, which had previously been treated for weeks and even months, by specialists, and without success.

In contradistinction to the mildness of lenigallol, "Eugallol" stands out boldly. This remedy is exceedingly vigorous and rapid in its action, and is particularly useful in chronic, stubborn psoriasis resistant to all other forms of treatment. By the repeated application of eugallol as a paint, daily or every two days, it is possible, if necessary, to induce on the psoriatic part a circumscribed serous inflammation, under the influence of which the most stubborn psoriatic spots are dissolved and dissipated. This is attained particularly rapidly when the painted parts are dusted, before they have dried, with zinc oxide, in the presence of which a rapid oxidation of the eugallol takes place, and a more active effect on the tissues is obtained.

At the command of the dermatologist, eugallol is, therefore, a sharp instrument for the purpose of extinction; I should not recommend it to the practising physician for general use.

Besides the pyrogallol acetate, Dr. Vieth

also prepared derivatives of benzoic, cinnamic, and salicylic acids, which are of scientific chemical interest so far as the completion of the knowledge of their pyrogallol esters is concerned, but which are of less practical value, because in every way inferior, to lenigallol, and eugallol, as remedies. Only the pyrogallol-salicyl compounds deserve mention. There are two of them: pyrogallomonosalicylate, and pyrogallodisalicylate. The first is about equal in value to pyrogallodiacetate, and appears to be, hence, superfluous. The disalicylate, or Saligallol, however, claims a practical interest. The molecules in saligallol are are still more firmly united than in lenigallol. Should saligallol, hence, be able to compete with lenigallol on this account, its physical character would still be a hindrance. Saligallol is a resinous, solid substance, which can only with difficulty be triturated and incorporated into ointments. This resinous character, on the other hand, is admirably adapted for the preparation of skin-varnishes. It is soluble in six parts of acetone, and in fifteen parts of chloroform, and the solution immediately dries to form a very adhesive varnish on the skin, but without having, in the remotest degree, the curative effect of eugallol. On the other hand, it is free from the powerfully irritative effects possessed by the latter. A mixture of saligallol and eugallol in solution, in acetone, renders it possible, hence, to apply the very active eugallol in just the degree of strength desired, and thus to modify the activity of the latter as required. A mixture of

Saligallol 2 to 15 parts

Eugallol 1 to 40 parts

Acetone.....to make 100 parts

answers all requirements in this respect.

DERIVATIVES OF CHRYSAROBIN: LENIROBIN AND EUROBIN

Just as pyrogallol was treated, so was chrysarobin worked up by Dr. Vieth. Up to the present time, however, only the acetic-acid esters have been prepared, and of them there are three, chrysarobin hexacetate, chrysarobin tetracetate ("Lenirobin"), and chrysarobin triacetate ("Eurobin"). In these preparations, just as with pyrogallol, the solubility and medicinal

effectiveness are the more reduced, the greater the number of acetic-acid molecules there are combined with chrysarobin.

The hexacetate is a yellowish powder of but slight activity. I have cured a few cases of mild, chronic eczema, one of erythrasma, and one of herpes tonsurans with it, but the time required is too long. At all events, it cannot compete successfully with other and more active therapeutic remedies. Leni-robin acts, however, quite differently. It compares with pure chrysarobin (that found in the market is, according to Vieth's investigations, seldom pure) somewhat as lenigallol compares with pyrogallol. It irritates the normal skin far less than chrysarobin does, while its reactive properties are at least just as powerful as those of chrysarobin. It possesses the advantage, besides, of not making any unremovable stains in linen, because the chrysarobin is liberated only on contact with the diseased skin-surface, while that contained in the ointment, and that soiling the linen, remains undecomposed, and can, therefore, be readily removed by washing. For a long time I believed that it could cause no conjunctivitis, and I employed it in a large number of cases on the face, without any special precautions. I finally, however, observed a moderate inflammation of the conjunctiva in a case of psoriasis in which the patient had applied some of the ointment to the lower eyelids. At all events, leni-robin possesses this disagreeable property to a far less degree than does chrysarobin itself. Leni-robin may hence be called upon to replace chrysarobin in all cases of mild, chronic skin-diseases (mild cases of psoriasis, chronic eczema, herpes tonsurans, etc.), and to be capable of extended application by the practical physician.

Far more active than leni-robin, however, is eurobin, the lower acetate of chrysarobin, and corresponding to eugallol. Like leni-robin, it is insoluble in water, but unlike chrysarobin it is readily soluble in chloroform, acetic acid, acetone, and in ether. The acetic-acid radicle is very readily split off from the combination.

It, therefore, causes an inflammation of the skin just as readily as does chrysarobin,

but at the same time it exceeds the latter in its reactive action on the chronically inflamed skin. Ointments containing low percentages of eurobin may, hence, possess curative powers equal to those possessed by ointments containing high percentages of chrysarobin, without at the same time being irritating to the skin, because, as in the case of leni-robin, the chrysarobin is only liberated when in contact with the skin. For this reason it is less likely to cause conjunctivitis, and it scarcely, if at all, stains linen with unremovable spots.

Eurobin acts most advantageously as a paint, dissolved in acetone or chloroform; as a varnish, eugallol is the most suitable, or, when a strong pyrogallol action is not desired, the more mildly active saligallol. A mixture of

Eugallol 10 to 50 parts

Eurobin 10 to 20 parts

Acetone to make 100 parts

when painted on the skin, yields a yellowish, transparent coating, in which, as the transparency and microscopic tests show, the eurobin is dissolved in the eugallol. Here pyrogallol and chrysarobin act together, combined in the highest degree of potency; the following mixture,

Saligallol 5 to 10 parts

Eurobin 1 to 20 parts

Acetone to make 100 parts

forms a coating almost immediately after painting on, and possesses a decided chrysarobin action. The reactive power of this varnish is enormous. I have at times succeeded, by means of a single application, in entirely removing psoriatic spots when not too deeply seated.

RESORCIN DERIVATIVES: MONOACETATE, DI-ACETATE, MONOSALICYLATE, AND DISALICYLATE

Of these four resorcin derivatives so far investigated, resorcin monoacetate, or "Euresol," possesses the most interest, on account of its physical properties. Euresol forms a viscid, pleasantly odorous, transparent mass, resembling honey in color, and readily reducible by trituration to powder.

Although I have treated over sixty cases of acne vulgaris and rosacea, sycosis simplex, seborrhea, seborrheic eczema, and al-

lied affections with resorcin derivatives, and particularly with euresol, and although I have obtained good, at times excellent and rapid results, yet I have not arrived at a final decision as to when, in what form, and and in what affections euresol acts better than resorcin alone; and whether it is likely to take the lead in treatment, as the derivatives of pyrogallol and chrysarobin have certainly done, and thereby constitute an actual advance in therapy.

This is undoubtedly due to the circumstance that the action of resorcin is far less pronounced than that of pyrogallol or chrysarobin, the curative action of the two latter in chronic herpes, and particularly in psoriasis, not only being accurately known, but in every single case capable of being reliably gauged, whereas the affections in which resorcin is employed are, clinically, much less characterized than chronic herpes, so that the curative influence on them is much more difficultly gauged. It must also be added that in these affections resorcin is not the only, nor is it the foremost remedy, as pyrogallic acid and chrysarobin are in psoriasis, but that besides it there are a number of good remedies, among which may be mentioned sulphur, green soap, and mercury, the action of which must be taken into cognizance in determining the comparative value of the resorcin derivatives.

On these grounds I desire to withhold judgment regarding the bounds of the advancement in therapy obtainable by the employment of resorcin derivatives, and would only call particular attention to the fact that the oily condition of euresol constitutes a very ready and reliable means of application to the hairy scalp and beard, and especially in the form of an acetone solution.

I may say that euresol is certainly worth being carefully tested therapeutically. I would, therefore, be greatly pleased if this communication should be the means of inciting one or more of the gentlemen present to make a trial of the remedy.

RÉSUMÉ

Permit me now, dear sirs, to state the advance in therapeutics which I believe I have

obtained by means of the new reactives, in the following résumé:

1. Lenigallol and lenirobin are preparations which, in their curative action on herpes are at least equal in value to the mother substances, pyrogallic acid and chrysarobin, while on the contrary they possess none of, or only to a very slight extent, their disagreeable properties and effects, such as poisonousness, irritativeness on the skin, proneness to cause conjunctivitis, soiling the linen with unremovable stains, etc. They are, hence, eligible for entirely replacing pyrogallol and chrysarobin, and may therefore be recommended to the practical physician for extended employment. Lenigallol is an excellent remedy for acute and subacute eczema.

2. Eugallol and eurobin are the most powerful reactives known so far, and possess the disagreeable properties of the mother substances, although to a less extent. They are employed like the latter, hence with caution, but in the hands of the well-informed practitioner and specialist they are able to afford such rapid curative powers as have heretofore been unknown.

3. Saligallol, while possessing but a weak pyrogallol effect, is of value on account of its resinous consistency, which enables it to yield an excellent skin-varnish, particularly suitable as a vehicle for eugallol and eurobin, but also serviceable for all other medicaments.

ODDS AND ENDS OF PRACTICAL THERAPEUTICS

By HORATIO C. WOOD, M.D., LL.D.

THE physician who is continually reading, continually thinking, and continually practicing medicine, acquires a stock of practical information much of which it may be impossible for himself to say whether he has taken it from other minds, and simply made it his own by practical use and experience, or whether it has originated with himself. Then, again, it is further impossible for a doctor to know how completely his therapeutic methods and administrations are different from those in common vogue. For this reason we have felt some hesitancy in publishing the series

of articles now entered upon, but have at last thought that in the olla podrida which we have to offer, various readers might pick here and there for themselves out of the dish something which might be of practical service to them. Moreover, in serving the pabulum to the readers of this journal, we have been guided by the fact that the points touched upon have seemed in considerable consulting experience to be novel to some active practitioners.

Administration of Drugs.—According to Apothecary E. H. Mullin, Englishmen like their medicines nasty. He affirms, with what truth we cannot say, having never practiced in the Old Country, that in Great Britain patients are still imbued with the belief that efficiency and nastiness, if not identical, are near attributes; he declares that English patients revel in the bitterness of quinine or of nux vomica, take comfort in boldly overcoming by force of will the nauseousness of castor-oil or Epsom salts, and feel their rheumatic pains or tubercular qualms lulled into quietude by the fishy smell and taste of cod-liver oil. Occasionally in our practice I have brushed up against a lower-class Irishman and Englishman, and seen that which indicates that Apothecary Mullin is not altogether away from the truth. But let this go. Certain it is that the American wants the crooked taste made straight and the rough places of nauseousness made smooth—the reason, perchance, that American pharmacy is on the whole so much more advanced than the same art as practiced in Europe.

The capsule is with us everywhere in vogue, and certainly is much superior to the old sugar-coated pill, which we have many times seen find the dark Stygian passages within not the way to oblivion but to a return to a brighter world. The capsule has, however, its limitations; for the powder, or dry drug, if the dose be not too large, the employment of the form of capsule in which one part is fitted in another is all sufficient, and when the dose is too large for a single capsule, by dividing it into two or more capsules the practitioner can usually get his way. When, however, the drug is a liquid the form of capsule just spoken of should

never be permitted. The ordinary apothecary always uses it because of its cheapness, at least such is our experience. This capsule, however, always leaks, indeed to leak is its prerogative; so that a liquid put up in it is always smeared upon the outside of the capsule and gives its taste to the patient who swallows it; but worse than this, usually so much of the liquid escapes from the capsule that the full dose is rarely if ever taken. The practitioner should see to it that the apothecary always dispenses his liquid in the soft capsule, which has the advantage not only of being easily swallowed, but also of being capable of such hermetical sealing that its contents cannot escape.

When it comes to the making of liquid galenical preparations it is interesting to note the changes which have occurred in the late decades in the choice of vehicles. Formerly in America syrup of tolu, syrup of wild-cherry bark, and other similar preparations loaded down with sugar, were very largely used as vehicles, often to the detriment of the patient's digestion, and only rarely to the real improvement in the taste of the nauseous draught. It is always doubtful whether a harmonious strain gives any pleasure when it can only be heard underneath an overpowering discord; and the sweetness of the sugar amidst the saline, bitter or other disagreeable taste of a medicinal mixture has never, to our thinking, had much power in the way of rendering the disagreeable agreeable. The introduction of the so-called "Aromatic Elixir" into the late U. S. Pharmacopeia was a very distinct advance, and on inquiry we have been pleased to learn that, at least in this portion of the United States, the physicians have very generally adopted it as a common menstruum or vehicle. It contains sufficient sugar for any rational purpose, being a little over one-third syrup, but is not either too sweet or sickening to the stomach. In using it, it should be remembered that about one-fourth of it is 92 per cent. alcohol.

The time of administration of a drug is important, especially in regard to its action upon the gastro-intestinal mucous membrane. That an irritant remedy is always to be given when the stomach is full is thor-

oughly understood by the profession, but it is not perhaps so universally recognized that very many drugs when given in milk are tolerated by the stomach much better than when given in any other way, and that milk also has much power of disguising disagreeable flavors. This is notably true of the salicylates, which when used freely should always be administered in milk. When it is desirable, with a substance like a bismuth preparation, to act on the mucous membrane of the stomach itself the preparation should be administered some time before meals, that is, when the stomach is empty; but when it is desired to reach the mucous membrane of the intestines the time of the administration should be one to two hours after meals, when the natural current is setting from the stomach downwards.

In the use of silver nitrate in cases of gastric catarrh the acid contents of the stomach and the disordered secretion upon the mucous membrane may greatly interfere with the action of the drug, even at the time of day when the stomach is most empty. In such cases success is often to be reached by giving ten minutes before the silver salt a tumbler of hot water with fifteen grains of the sodium bicarbonate in it, thereby neutralizing the acid, and so far as may be softening the mucus and cleansing the mucous membrane. Strangely enough, we have seen some of the most eminent clinicians in the United States order the silver nitrate in such cases in solution. Of course decomposition of the silver salt commences as soon as the lips have been crossed, and swallowing such a potion is little more than making a local application to the mouth and throat. The employment of the double capsule, for the purposes of preventing the rapid solution and absorption of remedies with which it is hoped to affect the intestinal tract is, we think, not so common as it should be. The use of silver nitrate in diseases of the intestines has in our hands never yielded satisfactory results, probably because the silver never gets into the intestine. The exhibition of Monsel's solution in gastric hemorrhage as a local styptic has often seemed to us to be very advantageous, but in intestinal hemorrhage it has not yielded similar results. On the other hand,

if Monsel's salt be used, heavy capsules be selected, and the salt be placed in a small capsule, and this be enclosed in a second and again in a third capsule, a mass is obtained with a core which has a good chance of escaping through the stomach into the intestine and acting locally. In the treatment of bleeding from the intestines it is extremely difficult to determine how far the hemorrhage ceases of itself and how far it is controlled by the drug given; but in our hands, in intestinal hemorrhage of typhoid fever, the use of the thoroughly encapsulated Monsel's salt has repeatedly appeared to be very effective. In only one out of a number of cases in which it has been employed has the hemorrhage continued to the fatal issue.

Serous Pleurisy Treated with Applications of Guaiacol

Dr. Prossorowsky treated eleven cases of serous pleurisy by the above method, and the results were so extraordinarily favorable that he considers himself justified in reporting them, without waiting for further material. He used a mixture of guaiacol one part and tincture of iodine four parts. A drachm (4 c.c.) of this mixture was applied once daily to the affected side, which was then covered with wax paper, cotton, and then with a bandage (*Medicinskoe Obobrenie*, No. 1, 1898). Besides this treatment the patients received only small doses of codeine or Dover's powder. In all cases the exudate became absorbed more quickly than was observed by the author under any other method of treatment. Neither objectively nor subjectively were there any disagreeable by-effects noticed; the irritation of the skin was also insignificant. From five to seven guaiacol applications were required to cause a complete disappearance of the exudation. The temperature was taken before and after each application, and a fall of 0.4 to 3.5° F. was recorded. In cases with normal temperature the reduction was insignificant. The urine was also systematically examined. The quantity increased during the treatment by from 7 ounces to 3 pints. Guaiacol could be demonstrated in the urine an hour after the application. The author believes that by irritating the peripheral nerve-endings, the guaiacol acts on the thermal and vasomotor centres; hence the reduction in temperature and increased absorption-power of the pleura. Besides it acts in the blood-current directly as an antiseptic. R.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D., HENRY LYLE WINTER, M.D.,
J. H. WINFIELD, M.D.

Suprarenal Capsules in Addison's Disease

At the Société des Hôpitaux, Dr. Béchère showed a young man, 28 years old, whose sputum now contained tubercle bacilli, without any discoverable lesions in the lungs, and who three years previously presented all the symptoms of Addison's disease (*Le Bull. méd.*, Feb. 27, 1898). At that time his condition was getting every day worse, his exhaustion was extreme, etc., so that a speedy fatal issue seemed inevitable. Nevertheless, under the doctor's treatment, all the symptoms of the disease, including the bronze color of the skin, disappeared in a comparatively short time, and it is now the third year since the patient has been well. The treatment consisted in the internal administration of the fresh suprarenals of calves and in the subcutaneous injection of a watery glycerin extract thereof. The treatment lasted about five months, and, though the doses were quite large, no after-effects of any kind were observed. The author explains the permanent beneficial effects by the hypothesis that the artificially introduced gland caused a compensatory hypertrophy of those portions of the suprarenals which had remained healthy. At the same meeting Dr. Widai and Dr. Hayem told of their experience with suprarenal capsules in Addison's disease. Each had treated one case. In both patients there was considerable improvement, but the improvement was only temporary, the disease progressing to a fatal termination. R.

Epilepsy

Dr. Mahnert (*Wiener. med. Woch.*, Nos. 33 and 35, 1897) distinguishes three kinds of epilepsy:

1. Idiopathic.
2. Reflex, dependent upon peripheral lesions.
3. Symptomatic of diseases or conditions. Under this heading are classed all forms of intoxication-epilepsies from alcohol, carbon dioxide, lead, antipyrin, ergot, and toxins from the digestive organs, and infectious diseases, such as syphilis, variola, measles, and general sepsis. Symptomatic epilepsy appears also in brain-diseases (tumors, multiple sclerosis, embolic and hemorrhagic processes); in injuries to the head; in heart-disease, and arteriosclerosis. The last two diseases

give rise to cardiac and arteriosclerotic epilepsy, the former chiefly in young individuals as a result of valvular disease, the latter in the elderly as a result of arteriosclerosis and subsequent changes in the heart-muscle. The writer observed three cases of the last variety, and attributes this form of epilepsy first to anemia of the brain, and secondly to the hardening of the coats of the cerebral arteries, producing an irritation of the associated ganglion-cells which contributes to the epileptic attack. The attacks in arteriosclerotic epilepsy are more likely to occur at night. The prognosis is unfavorable. Life may be prolonged by arresting the presenile arteriosclerosis and preventing insufficiency of the heart. S.

Ointment for Rheumatism

The following formula is recommended for severe rheumatic pains. Only a small quantity is to be applied at a time, and without friction (*La Méd. mod.*, Vol. IX, p. 120):

Methyl Salicylate	of each 1 dr.
Guaiacol	
Menthol	15 grn.
Potassium Bromide	75 grn.
Antipyrin	30 to 45 grn.
Oil of Turpentine	1½ dr.
Extr. of Belladonna	3 gr.
Lanoline	½ oz.
Vaseline	½ oz.

R.

Original Studies in the Bacteriology of Chronic Endometritis

Dr. Jas. B. Warbasse writes in the *Am. Jour. of Med. Sci.* (Feb., 1898, pp. 184-188) an account of some careful experiments made by him at the Methodist Episcopal Hospital, Brooklyn, in the service of Dr. L. S. Pilcher. He first reviews the findings to date on the bacteriology of the vagina, and concludes in regard to it that Döderlin's *Bacillus vaginæ* is the only germ capable of independent existence in the vaginal secretion, except the gonococcus of Neisser.

He next summarizes the results of Laplace's findings on the endometrium, which are briefly as follows:

1. The normal endometrium of the cervix and uterus harbors known and unknown micro-organisms, many of which are fatal to guinea-pigs.

2. The inflamed endometrium contains these same micro-organisms, only in vaster quantities.

3. In chronic endometritis the secretions contain the same infectious organisms in both mucous membrane and fibrous tissue, and are the cause of the hypertrophy.

Menge, in the Gynecological Clinic in

Leipsic (*Deut. med. Woch.*, No. 48, 1894), however, found leucocytosis and phagocytosis follow introduction of pure cultures of streptococci into the cervical canal, with total disappearance of these germs in twelve hours, and concluded the protective action of the cervical endometrium was proof against all germs except the gonococcus.

The author's experiments dealt with seventeen cases of chronic endometritis in the following manner: Vaginal douches were given daily for several days before curetting. Under the anesthetic the vagina was scrubbed out with a sponge smeared with soft soap at the same time that a constant irrigation was kept up with boro-salicylic solution. The vagina was dilated with retractors, the os wiped dry with sterilized gauze, while held down with a tenaculum, the canal stretched with Ellinger's and Goodell's instruments and Grünfeldt's urethral endoscope was introduced to the fundus before its piston was withdrawn. Through this tube a small sharp curette, passed to the fundus, brought away a bit of the mucosa. This with blood and mucus was added to culture-tube of warm beef-bouillon-gelatin and agitated with it. All instruments had been sterilized. Twelve tubes gave no growth. Of the remaining five, one showed pure *Staphylococcus pyogenes aureus*, a second *Staphylococcus pyogenes aureus* and the *Proteus vulgaris*, a third *Bacterium ureæ*, a fourth *Staphylococcus pyogenes albus*, and the fifth the same.

In no case was there a growth from the shreds or pieces of mucous membrane; the growth never showed any special relation to the uterine tissue embedded in the gelatin. "This is a very strong reason for believing that these organisms do not bear an etiological relation to the chronic endometritis," as also is their absence in 71 per cent. of the cases. The presence at all of these germs is easily accounted for by the treatment received previous to the taking of the culture, in the use of sounds, etc., or by the coexisting tear in the cervix in each case, in the corner of which the germs may have remained in spite of the careful preparation and have been carried up into the uterus by the endoscope. The cervix and perineum, when repaired in all these cases, healed primarily.

Thus the findings differ from Laplace's. The technic was more careful and the culture-medium was proven by control-culture with pyogenic organisms. The author further supports the position "that these virulent organisms are not present in chronic endometritis," by citing three cases of perforation of the uterus by a sharp

curette in this condition without subsequent peritonitis, and by reference to twenty-eight myoma operations in the Leipsic clinic by Zweifel's method without cleansing the cervical canal, and yet with no bad results. Krönig and Menge are in harmony with this position. Besides, pyogenic streptococci and staphylococci produce, not a chronic, but an acute inflammation, whereas chronic endometritis is most often chronic from the first. Chronic inflammatory changes supervene after gonococci and puerperal inflammations of the uterus and adnexa; but it is improbable that bacterial infection causes them.

It is not necessary to suppose a microbic cause, for the glandular and connective-tissue elements may here be hypertrophied through irritative or trophic disturbances, without the presence of bacteria, as well as in the kidney or liver. H.

The Action of Large Doses of Bismuth in Hyperacidity and in Ulcer of the Stomach

Dr. Olivetti (*Gaz. med. di Torino*, No. 48, 1897) gave to his patients very large doses of bismuth, 9 to 10 1-2 ounces a day; the single doses were 2 1-2 to 4 drachms, and they were well borne. By the means of test breakfasts the author found that the bismuth has no influence either on the production of hydrochloric acid or on the contractility of the stomach. The author therefore believes that the favorable action of bismuth in hyperacidity and in ulcer ventriculi is a purely mechanical one; the bismuth forms a protective layer all over the mucous membrane of the stomach and thus prevents the sensitive parts from coming in direct contact with the hydrochloric acid. This also explains why the pains return as soon as the bismuth has passed into the intestinal canal. R.

Erythropsia

H. Snellen propounds a theory in *Gracfe's Arch.*, Vol. XLIV., 1897; ref. *Ophth. Rev.*, of the nature of erythropsia which is both simple and ingenious. He points out the fact that Fuchs' well-known view of its dependence on the retinal purple is not a complete explanation of all the facts, as indeed Fuchs himself allows. It does not, for example, account for the complementary green vision which frequently precedes the red. The fact that the purple is confined to the outer segment of the rods renders it difficult to understand how its color affects the percipient retinal elements; and finally the purple is absent from the yellow spot, although in some cases, at any rate, the red vision is as intense

in the center of the field as elsewhere. Snellen therefore looks for another explanation and finds it in certain well-known phenomena of contrast and after-images.

His theory may be best explained by quoting the experiment which he has designed to illustrate it. Taking a sheet of red-tinted gelatin, with a central hole three mm. in diameter, and looking through this at the clear sky, the field of vision appears at first colorless in the center, while the periphery is colored by the red light transmitted by the gelatin. Gradually, however, the center takes on a greenish hue from the effect of contrast. If now the gelatin be removed and the eye directed towards a moderately lighted surface, the colors are reversed in the after-image and the central part of the field exhibits typical erythropsia. Similar conditions, says Snellen, are present when the eyes are exposed to the glare of a snow-field, the strong light penetrating the eyelids and the vascular coats of the eye itself illuminates the periphery of the field with a red glow, such as one sees through one's fingers on holding them up to the sunshine; the center is at the same time lighted by white light through the pupil. On passing into the comparative darkness of the hut the negative after-image is developed and all objects seen with the center of the field appear red.

G.

Ointments for Pruritus Vulvæ

The following combination is highly recommended by Dr. Beall as having given good results where all other means had failed (*Texas Med. News*, April, 1898):

Menthol	8 grn.	(0.5 gme.)
Quin. Sulph.....	20 grn.	(1.25 gme.)
Ac. Carbolic.....	24 grn.	(1.5 gme.)
Ung. Hydrar. Nitrat.	1 dr.	(4 gme.)
Ichthyol	2½ dr.	(10 gme.)
Lanolini	6 dr.	(24 gme.)
Ol. Ricini.....	10 dr.	(40 gme.)

M.f. Unguentum. S.—Apply freely after washing the parts with hot water.

R.

A Case of Pancreatic Colic with Temporary Diabetes

Prof. Zaccharin and Dr. Polyakoff, of Moscow have had under treatment a case which shows that diabetes may appear even when the pancreas is not organically, but only functionally affected (*Berl. klin. Woch.*, Vol. XXXV, p. 237). The patient, 28 years old, a perfectly healthy man of good habits, was suddenly taken, near the epigastrium, with violent pains, which radiated along the left costal arch to the spinal column and the left scapula. These attacks of pain recurred four or five times in

three weeks and were accompanied by vomiting. The stools all the time were normal. Since then the patient has a constant dull pain and a feeling of pressure on the left side. The patient began to lose flesh, became very weak, though his appetite increased to such a degree that on going out for a walk he would take some bread and meat along to satisfy his hunger. The thirst became unbearable. On examination the authors found that the kidneys, liver, and gall-bladder were not sensitive to pressure, but there was a painful spot in the center of a line drawn from the gall-bladder to the umbilicus. No tumor was discoverable; the liver and spleen were not enlarged. The urine was free from albumin, but contained a large amount of sugar. The case was diagnosticated diabetes mellitus, the result of pancreatic colic. The patient was put on the proper diet and was ordered antipyrin and caffeine. After one month's treatment, the patient's urine contained but traces of albumin, the pain on pressure in the epigastrium disappeared, and he felt much stronger. In two months more the patient was perfectly well, increased 14 pounds in weight and the urine was absolutely free of sugar. R.

For Migraine

Bernatzik (*Centralbl. f. d. ges. Therapie*, Vol. XVI, p. 252) recommends:

Caffeine (pure).....	9 grn.
Alcohol	2 dr.
Water	½ dr.
Chloroform.....	2 dr.

S.—Fifteen or twenty drops, at short intervals.

R.

Pharmacology of the Di-oxy-benzoic Acids and Their Corresponding Aldehydes

In an interesting communication to the *Archiv. Ital. de Biol.*, Vol. XXVIII, p. 139. P. Marfori shows that proto-catechuic acid is eliminated from the urine unaltered in part and in part as an ethereal sulphate, a very small portion being converted into pyrocatechuic acid and carbonic acid. Its action upon the organism must be slight, since rabbits can stand a dose of from 3 to 4 gme. (45 to 60 grn.). Proto-catechuic aldehyde is an isomer of salicylic acid, and it is oxydized in the body in much the same manner as that acid is. When taken by the mouth it has but little action, but when injected hypodermatically it produces trembling, troubled movements, palsies, and lowering of the temperature. Vanillic acid or the mono-methyl proto-catechin, is indifferent. It passes by the urine unaltered or

in part as an ethereal sulphate. He also shows that vanillin is inactive after being oxydized into vanillic acid. The same can be said of iso-vanillin and its acid. The antiseptic action of all these bodies is negative and their antipyretic action slight if any. Injected into the circulation proto-catechuic aldehyde and methyl-vanillin produce a slight motor excitation followed by a mild grade of palsy. Methyl-vanillin also produces a slight amount of hypnotic action.

J.

Rupture of Tendons of Mitral Valve

Le Bull. méd. (Feb. 20, 1898, No. 15, p. 171) records the case of a man of 63 years who entered hospital for the sudden onset of violent oppression and loss of consciousness, following impaired respiration of two months' duration. There was large systolic murmur at apex and in armpit, some emphysema, no edema nor dropsy, no rheumatism nor other infection.

Three violent smothering heart-attacks followed, after which came a broncho-pneumonia, and the patient rapidly grew worse and died. At the autopsy nothing except rupture of the tendons of the left pillar of the mitral valve was found to account for the condition above described.

H.

Arhythmia of the Pulse

Th. A. Clayton (*Univ. Med. Mag.*) believes that there is probably no other symptom more capable of alarming the patient and annoying the physician than arhythmia of the pulse. Its physiology is very indefinitely known. We may have (1) pulsus intermittens; (2) pulsus alternans; (3) pulsus bigeminus; (4) delirium cordis, or wholly irregular pulse; and (5) pulsus paradoxus, or a weakening of the pulse during inspiration. The same patient may present several varieties of arhythmia at different times. When a distinct method in the irregularity is observed, the condition is known as alorhythmia.

Experiments on the frog's heart, after its removal from the body, have shown that the rhythmic heart-beat is entirely independent of the central nervous system. Whether the intracardiac power is derived from the ganglia in its wall, or is an inherent quality of the muscle-fibers is still a matter of doubt, although the majority favor the muscular theory. Huchard suggests, as in some cases the extent of lesion does not seem to bear any relation to the amount of arhythmia, that there may be portions of the heart, as of the brain, which are more tolerant. Roy and Adami demonstrated that stimulation of the vagus weakens the force of auricular contractions, and, probably, to

a corresponding degree, the strength of the rhythmic excitation, which reaches the ventricle from above, and at the same time it diminishes the excitability of the ventricle; but in spite of the latter the ventricles take up a rhythm of their own, which is slower than the normal beat. Each rhythm alone is regular, but when both affect the ventricle at the same time, there is interference with the production of a rhythmic irregularity. Simple intermittency, however, may be due to weakened auricular impulses, not being followed in all cases by a ventricular contraction.

From a pathological point of view we may have six classes:

1. Neurotic and psychic—Hysteria, neurasthenia, epilepsy; exophthalmic goiter; emotions; paroxysmal arhythmia.

2. Nervous and cerebral—Meningitis; apoplexy; cerebral or meningeal hemorrhage; cerebral tumors; compression of vagus by tumors.

3. Reflex—Diseases of the alimentary canal, uterus, etc., arhythmia from cold.

4. Toxic—Digitalis, tea, coffee, tobacco, alcoholism, etc.

5. Critical arhythmias of acute diseases—typhoid, pneumonia, etc.

6. Arhythmias of cardiopathies—(a) Valvular (insufficiency and stenosis of the mitral valve); (b) myocardial; acute and chronic myocarditis; senile arhythmia, from degeneration and overcharge of fat of the heart; arterial cardiopathies; endocarditis and pericarditis; insufficiency and stenosis of the aortic valves of arterial origin; sometimes angina with concomitant cardio-sclerosis.

From this pathological classification it may be concluded that an arhythmic pulse, perhaps in the majority of cases, may not be of serious import; it is, at the same time, so often the result of grave, nervous, or cardiac change that its recognition should certainly be the signal for a careful investigation as to its probable origin.

S.

Paralysis of the Laryngeal Muscles in Typhoid and Typhus Fevers

L. Przedborski, of Lodz (selection, *Med. Bul.*, Vol. XX, No. 1, p. 20), in relation to the above, summarizes as follows:

1. Paralysis of the muscles of the larynx in typhoid fever is much more frequent than has hitherto been thought. This fact is unmistakably demonstrated if the larynx be examined in every case in the different periods of the disease, even when no laryngeal complication is indicated by outward symptoms.

2. This paralysis is equally frequent in the febrile period and in convalescence. In

typhus fever laryngeal paralysis is more frequent during the febrile stage than in convalescence.

3. All the muscles of the larynx, adductors as well as abductors, are attacked with the same frequency.

4. The development of laryngeal paralysis occurs with a certain regularity. Only one of the adductors of the glottis is at first attacked, the abductors being afterward involved in their turn, the picture of complete recurrent paralysis being then presented.

5. The successive appearance and disappearance of recurrent paralysis does not always occur according to Semon's law. Thus, paralysis which began in the dilators of the glottis sometimes disappears, and the constrictors are then attacked.

6. The progress of typhoid paralysis is most often acute, a cure occurring in the space of from one to three weeks. In typhus fever the affection has a tendency to become chronic.

7. The prognosis is favorable in typhoid fever, even when both recurrences are paralyzed. Complete cure, on the contrary, is an exception in typhus fever.

8. The virulence of the specific micro-organism and its biological properties certainly play an important part in the advent of typhoid paralysis. As much may be said of the individual predisposition of each patient. Out of seven patients belonging to the same family, who became ill under the same etiological conditions, the writer observed laryngeal paralysis only in three cases, twice in the course of typhus fever and once in typhoid. L.

Notes on the Non-surgical Treatment of Boils, Carbuncles, and Felons

In the *Brit. Med. Jour.* L. Duncan Bulkley, M. D., gives his experience in treating the above-mentioned diseases without the use of the knife. The first point is that the occurrence of suppurative processes should always be regarded as evidence of faulty metabolism, and search should be made to discover and rectify what is wrong. Patients with boils, carbuncles, and felons are never in perfect health, although it is extremely difficult at times to discover the cause on which the trouble depends. Iron is most commonly needed, but quite as often there will be digestive and assimilative difficulties. Sometimes the cause lies only in overwork and worry, often in dissipation, though of a relatively harmless kind, involving late hours and irregular eating.

The combination of iron recommended by the doctor is the alkaline one known as

Startin's mixture, a teaspoonful in water after meals. He also recommends purging for two or three nights; he uses a pill combined of blue mass and colocynth. He speaks favorably of calcium sulphide, but insists that the drug should always be fresh.

The local treatment of the disease under consideration is extremely simple; the objects aimed at are, first, the protection of the inflamed area; second, exclusion of the air; third, a slight antiseptic action. To obtain this end the inflamed surface is covered with a thick layer of absorbent cotton, on the center of which is smeared an ointment of carbolic, ergot, zinc oxide, powdered amyl, made up with an unguent of rose. When pus is present he does not allow any squeezing; he always leaves the skin to part spontaneously. The ointment is applied constantly until the carbuncle heals.

In felons he employs the diachylon, or litharge ointment prepared according to the formula of Hebra, from which he claims great benefit; the pain grows less, and the patient's general condition rapidly improves, and the lesion in the finger terminates in a short time in resolution. W.

Intravenous Injections—The Exact Technique, with the Report of Cases

This timely subject is treated in a very thorough and exhaustive manner by Dr. George W. Spencer (*Therap. Gaz.*, Vol. XXII, p. 166, March 15, 1898). After analyzing the advantages and disadvantages of the various substances that have been used and recommended, such as animal blood, human blood, defibrinated blood, milk, saline solutions, etc., the author shows that the best and most convenient for intravenous injection is a simple saline solution: 7 parts of sodium chloride to 1000 of sterilized water. The quantity of the saline solution to be injected varies according to the age, the amount of blood lost, and the reaction-signs in case of shock and collapse. After severe hemorrhages, the amount should be greater than in cases of collapse or shock. The quantity ranges from a few ounces up to three or four quarts. The chief guides in any case are the return of the pulse, with increase of volume and diminution in rate, return of color, facial expression and consciousness. The temperature of the solution should be kept at about 100° F. while injecting. A convenient way of handling the solution is as follows: Have ready three quarts of a cooled, boiled solution containing twelve drachms of salt. When the time arrives to administer the injection, take any convenient quantity of the above solution and add

to it an equal volume of boiling water; the solution is then ready for use. The fluid should be forced in gently and the pulse should be carefully watched for fear of overloading the vessels.

The technique of the operation is simple. The median basilic vein is usually selected. Where on account of its collapsed condition it cannot be identified, its outline can be made prominent if a moderately tight bandage be applied around the arm just above the elbow and then have flexion and extension performed at the wrist. These movements will increase the blood-flow and distend the wall of the vein.

After the parts have been thoroughly cleansed and the forearm placed in a position of supination, an incision one inch in length should be made over the vein at the bend of the elbow and carried through the skin and superficial fascia. This incision will bring into view a layer of fat, which is very often seen and very rarely spoken of in our text-books. In all of the author's cases this layer of fat was present. With a blunt instrument the fat can be torn through and the vein exposed. Three catgut ligatures should be placed under the vein, and one of the ligatures should be drawn well down into the lower angle of the wound and immediately tied. An opening just large enough to receive the cannula should be made in the vein-wall above the point where the ligature was tied. Into this opening the end of the cannula is introduced. A second ligature is now tied around that portion of the vein which includes the end of the cannula. This ligature not only holds the instrument in place, but prevents the entrance of air. After the required amount has been injected, the third ligature should be tied in the extreme upper angle of the wound above the end of the cannula. The cannula can now be taken from the vein, or that part of the vein between the upper and lower ligatures can be excised, removing the excised portion of the vein with the cannula in situation. The wound needs no drainage, is closed with several silkworm-gut sutures, and dressed with aseptic dressings.

In extreme cases of shock, hemorrhage or collapse the superficial veins may be so empty that they cannot be made prominent by the bandage and wrist movements. If the vein desired is not readily found, a transverse incision should be made in the subcutaneous fat across the line of the vein. This incision will divide the vein and the collapsed ends can be recognized. The lower end should be ligated and the upper end should be treated as in the above operation. The instrument used in conveying the solu-

tion must be as clean and as simple as possible. When there is no special instrument at hand for introducing this solution by the intravenous method, an ordinary glass or rubber syringe, with a piece of india-rubber tubing attached to its nozzle and a cannula attached to the other end of the tubing, will suffice. The cannula can be of glass or metal. A small goose-quill would answer equally well in emergency cases. One of the most convenient and safest instruments for this purpose is Collin's transfusion apparatus. It was used extensively for transfusing blood during the French and German wars and gives perfect satisfaction. It consists of a reservoir or basin which is funnel-shaped and holds about one pint. To the bottom of this basin is attached a glass syringe which holds half an ounce and works like any other ordinary syringe. To the lower angle of this syringe is attached a rubber tube with a cannula at its end. The entrance to this tube is guarded by a hollow ball-valve made of aluminum, which completely excludes the air. The basin is filled with the solution, the piston is drawn back and the barrel of the syringe becomes filled; the piston is then pushed, which drives the ball-valve up and allows the fluid to go through the tubing and cannula into the vein. After one syringe-full is thus delivered, the ball drops back over the entrance of the tube. To be sure there is no air in the tubing or cannula, one syringe-full should be emptied before introducing the cannula. The basin should never be less than one-third full. The reported cases are in brief as follows:

Case 1. Operation on the brain. Two ounces and 150 grains of diseased brain-tissue removed. Fearful hemorrhage; patient rapidly sinking. Under intravenous injection reacted and soon recovered from the operation.

Case 2. Operation on the brain. Condition alarming: pulse weak, 132 per minute; respiration shallow, 24 per minute; skin cold and clammy. Under influence of injection pulse fell from 132 to 90, respiration to 19, color in face became fair; rapid recovery from operation.

Case 3. Carcinoma of upper third of arm and shoulder. Operation: entire upper extremity, including scapula and outer two-thirds of clavicle, removed; subclavian vessels ligated. After the introduction of twenty ounces of saline solution, patient suffered very little shock and soon recovered from the operation.

Case 4. Gunshot wound of the chest. Delirious, pulse 132, skin cold and clammy, in short all signs of internal hemorrhage. Operation: three ribs resected, pleural cav-

ity opened and necrotic lung and pleural tissue removed, number of pulmonary vessels ligated. The blood that escaped through the wound in the chest was caught in a bucket and it amounted to eight and a half pints. Two quarts of the normal saline solution were injected intravenously, and Prof. Da Costa, who operated on this case, thinks that the solution saved his patient's life.

R.

The Gonococcus and its Toxin

J. de Christmas, in the *Ann. de l'Inst. Pasteur*, No. 7, 1897, presents a series of observations upon the gonococcus of Neisser, its toxin and also an antitoxin: The organism is grown upon a mixture of ascites-serum and broth-peptone in proportions of one to three, in an incubator at 36° C. In this mixture the gonococcus grows rapidly and develops its gonotoxin.

Experimental inoculations in great numbers were made upon various animals with uniformly successful results. In man the author has been able to induce an urethritis resembling gonorrhea in all its important characteristics save the gonococci—these were absent.

A number of experiments were made upon animals, with a view of obtaining an antitoxin; this the author thinks he has accomplished. The animal rendering the antitoxin was the goat, and the author concludes by stating that the antitoxic properties of the serum thus far obtained is insufficient to arrest in its progress an attack of gonorrhea in man, but he believes that it is capable of exercising a restraining effect upon a number of the gonorrheal infections, such as blenorragia, arthritis, and salpingitis.

J.

An Eruption of Vaccination and Revaccination

Dr. Isador Dyer, in the *Indian Lancet*, gives a careful résumé of the eruptions which accompany vaccination. He says the best method for their study is by dividing them into groups, which Malcolm Morris has done as follows: 1. Eruptions due to pure vaccine inoculation. 2. Eruptions due to mixed inoculation with vaccine with which an additional virus, or several viruses, has become mixed. The eruptions classed in the first group are those due to inoculation. First comes the lesion of vaccination itself; after the constitutional impression a papule appears, accompanied with itching and formication. The papule rapidly becomes a pustule which soon crusts, eventually leaving a true vaccination-scar.

Eruptions following within the first three

days before the development of vaccine vesicles are urticaria, erythema, erythema multiforme, and even the vesicles which may be pemphigoid in size. Eruptions following after development of vesicles are usually of a dermatitic character, resembling roseola of measles or the redness of scarlet fever or even purpura, and another variety which closely resembles the lesions of varicella. Many eruptions are lighted up as it were as a sequela of normal vaccination; for instance eczema, especially the reflex variety, psoriasis, and urticaria of the chronic variety.

Many viruses are introduced at the time of the vaccination and are frequently the cause of cutaneous eruptions. The pus-organisms will produce an attack of impetigo contagiosum frequently so severe as to excite suspicions of small-pox, or an erythema of a grave character starting from the vaccine lesion spread over the whole arm or even part of the body. This may produce cellulitis and gangrene; here, however, the *Bacillus septicus* must be held responsible.

Syphilis, leprosy, tuberculosis, have each been traced directly to vaccination. These cases, however, were found only where the habit of arm-to-arm vaccination has been practiced, and never where the prepared bovine lymph had been employed. W.

Researches on the Pneumococcus

J. W. Eyre and J. W. Washbourn, in the *Jour. of Path. and Bact.*, Vol. V, p. 13, 1898, detail a number of studies made to secure a better medium for the growth of the pneumococcus and much experimental work upon the virulence of the products and its preservation. The susceptibility of various animals is studied, also the protective power of various sera and their agglutinative power and the bactericidal action of various sera. The following general conclusions are expressed by the authors:

1. The pneumococcus, when cultivated upon the medium described (1 per cent. agar with sterile rabbit's blood streaked upon it), will maintain a constant virulence for a long time.

2. Rabbits and mice are very susceptible; and to an equal degree guinea-pigs are refractory, but marked individual variations in susceptibility are observed; fowls are absolutely immune.

3. The virulence towards guinea-pigs can be increased by repeated passages through a series of these animals without any alteration occurring in the virulence towards mice.

4. The normal sera of the rabbit, guinea-

pig, and fowl, in doses of 0.5 c.c., will not protect against ten times the fatal dose of a living cultivation, but will protect against the minimal fatal dose.

5. The antistreptococcic serum of the horse has no protective power.

6. The antipneumococcic serum can be accurately standardized.

7. The agglutinative power of a serum bears no relation to its protective power, although the serum of the immune rabbit contains more agglutinative substance than that of the normal rabbit.

8. There is no definite relation between the protective power of a serum and its bactericidal properties as tested by plate-cultivations. J.

A Case of Broncholithiasis

Under broncholithiasis we usually understand not a disease *per se*, but a symptom, which is present in various pathological conditions of the lungs, and which consists in coughing up of stone-like concretions. Cases of true primary broncholithiasis are very rare. Dr. Mager reports such a case (*Wiener klin. Woch.*, Vol. XI., p. 268). The patient, a woman of 28, has always been well. In March, 1897, she began to cough, expectorating a muco-purulent sputum. There were no fever and no night-sweats. Two months later the attacks became very severe, the cough lasting sometimes for an hour and ceasing only on the expectoration of a solid little stone. She had in all about thirty such coughing spells, expectorating about thirty stones. Since then she has been well. The stones are about 1-5 to 2-5 inches in diameter, and consist chiefly of phosphate of calcium, phosphate of magnesium, and a little carbonate of calcium.

Repeated examinations of the sputum showed absence of tubercle bacilli. The urine was absolutely normal. R.

Hysterical versus True Peritonitis

Hopkins, in the *Colonial Med. Jour.*, compares hysterical simulated peritonitis and true peritonitis. Simulation of acute diffused peritonitis by the hysteric is of rare occurrence, but in neuropathic women the localized inflammatory affections are sometimes very closely counterfeited. In hysterical peritonitis the pain usually predominates in the left side of the body. It often develops and ceases like other hysterical symptoms under the influence of moral impressions. In hysterical peritonitis a slight touch of the skin produces more distress than deep pressure, although in neuropathic

patients deep pressure in the hypochondriac region causes intense suffering. In hysterical peritonitis there is often vomiting but never nausea. The vomiting does not become fecal. The pulse and temperature in counterfeit peritonitis are usually about normal. L.

Nephritis Due to the Diplococci of Fraenkel and Diplococcemia Consecutive to Tonsillar Angina

Baduel, of Florence (selection, *Med. Bul.*, Vol. XX, No. 1, p. 20), reports four cases of nephritis following tonsillar angina due to the localization and development of Fraenkel's diplococci, which were also found in the blood. In each instance there had been a greater or lesser interval between the angina and the nephritis marked by general malaise, weakness, etc. The diplococci were also present in the urine, though much fewer than in the blood. L.

The Suprarenal Capsules in Experimental Infectious Diseases

Among all the organs of the body none have been so difficult of study as the suprarenals. In a recent communication in the *Ann. de la Soc. roy. des Sci. méd. et nat. de Bruxelles*, Vol. VI, p. 115, 1897, Dr. René Wybauw gives the results of an extended research upon the suprarenals of the rabbit. He records the normal histology of these glands in this animal and the pathological changes due to diphtheria and other infectious diseases. He also gives the results of a physiological study of the extract of the glands. He believes it fairly well established that the suprarenal capsules, perhaps more than any other organ, are susceptible to the action of toxins, and especially to the toxin of Loeffler's bacillus.

This susceptibility argues that these organs probably have a very delicate and complicated function from the clinical point of view, and also that they have a very unstable composition. It being of interest to note, in this connection, that the tissues most markedly affected are those where the medullary and reticular zones are adjacent, in other words, where the blood-supply is richest, and hence where the greatest quantity of poison could be introduced into the organ.

These changes affect the cells and the nuclei and are brought about rapidly, producing as a result the suppression of the physiological activity of the gland, thus causing a loss of the chief power of the gland—its antitoxic properties; for one of

the chief functions of this gland is, according to the author's experimental experience, and also those of others, to destroy the organisms' own toxic substances.

It is to the suppression of the activities of this gland, in the infectious fevers, where there is a great and sudden increase of waste toxic products, in great part, at least, that death results.

The author shows that three factors are here concerned. These are:

1. Intoxication by the bacterial products.
2. Diminution of the activities of the emunctories, as the kidneys and other organs undergo degenerations.
3. The diminution of the internal chemical destruction of the poisonous products elaborated by the organism itself, precisely at a time when the body is making such products in greater abundance. J.

Hemato-spermia

Dr. Kroner reports (*Berl. klin. Woch.*, Vol. XXXV, p. 295) a case of this exceedingly rare affection. The patient, 49 years old, had always been healthy; no hereditary taint, no syphilis (he suffered though with chronic eczema), had always been moderate in sexual intercourse; was in good financial circumstances. Lately he had noticed that his semen was bloody. He became weak and unable to follow his occupation. The urine contained neither albumen nor sugar. The microscopical examination of the blood revealed nothing abnormal. In a few months after the beginning of his disease he was attacked with scurvy. In spite of all treatment, change of climate, etc., his spermatic fluid remained permanently bloody, and after repeated hemorrhages and increasing cachexia the disease terminated fatally in a few months. R.

The Real Value of the Brandt Bath in Typhoid Fever

Dr. H. A. Hare and Dr. C. A. Holder (*Therap. Gaz.*, March 15, 1898) have endeavored to determine the exact value of the Brandt bath in typhoid fever. Their object is not to throw discredit upon this valuable method, but to protest against its indiscriminate and routine employment. They have examined all the data and statistics—domestic and foreign—and have reached the following conclusions:

1. The mortality for typhoid fever to-day all over the world, except in individual epidemics of malignant infection, is not over 15 per cent., and under good nursing and non-meddlesome treatment, about 10 per cent or less.

2. In American hospitals, under the best men in the profession, the mortality of ty-

phoid fever (with the Brandt treatment) is about 7.5 to 8 per cent., and sometimes 10 or even 18 per cent; therefore the saving of life by the bath is not the difference between 25 and 7 per cent., but between 10 and 7.5 per cent at the very best.

3. The Brandt treatment does not shorten the attack, but probably prolongs it.

4. Relapses are much more frequent under it.

5. Hemorrhages are more frequent, though the modification of all the symptoms by the bath would lead us to expect a decrease in their number.

6. The frequency of perforation is not diminished.

7. The cold bath is then evidently responsible for a saving at the most of but 2.5 per cent.; and it is also evident that this 2.5 per cent. is saved by the favorable effect of the bath on the nervous system, circulation, respiration, and the toxemia, or the other causes of death remain unaltered in frequency, or are even increased.

8. It is or ought to be a fundamental law in therapeutics that there is no such thing as treatment by hard and fast rules of routine. The recommendation that all cases of typhoid fever with a temperature of 102 to 102.5° F. shall be placed in a tub of water at 65° to 70° is an affront to this rational law.

The authors then ask the question: Cannot some modification of the bath be adopted, capable of attaining the same ends without the suffering of the patient and the immense labor involved, and without some of the very serious drawbacks now found associated with it? They answer it in the affirmative, and offer the following plan of treatment:

1. When the patient is seen early in the disease, whether he has constipation or moderate diarrhea, a full dose of calomel in divided doses should be given in order to stimulate the liver and antisepticize the bowels with bile.

2. When the fever reaches 102° F., it should be controlled by sponging. The patient being stripped and laid on a rubber sheet or blanket over such a sheet, he is to be sponged with water adapted in temperature to his needs, and it is to be remembered the rapid application of a low temperature is more refreshing than the prolonged application of a higher temperature. If this does not bring the temperature down to 100.5° or 101° in twenty minutes, resort should be had to the tub.

3. It is advisable not only to use friction in a light form, but to use moderately active massage. The authors are firmly convinced that by this means bed-sores, local

congestions and effusions, edematous swellings, peripheral nerve-pains and muscular feebleness will be to a great extent prevented.

4. In nearly all cases more nourishment should be given than the average typhoid patient has usually had in the past. With the exception of broths (which are culture-media for the typhoid bacillus) and meats, almost any article easy of digestion should be allowed.

5. Stimulants, particularly alcohol, in carefully graduated doses, should be used whenever the circulation needs them. This is recommended even by the cold-bath enthusiasts to overcome the depression often produced by the bath. R.

Infantile Cerebral Degeneration with Symmetrical Changes at the Macula

Kingdon and Risien Russell contribute (*Trans. Royal Med.-chir. Soc. of London*, Vol. LXXX, 1897) a paper on this uncommon and fatal disease of infancy. Their report contains clinical records of four cases, three of them under the observation of the authors; its value (*Ophth. Rev.*, Vol. XVI, No. 194, 1897) is greatly enhanced by the addition of the post-mortem findings in three cases, in one of which the pathological examination has been carried out very thoroughly. In only one of the previously reported cases are there notes of an autopsy, and in that the examination was limited to the brain. Because the report by Kingdon and Russell is the most complete that has yet appeared, the authors' observations are here given in some detail.

No distinct exciting cause is known, and the disease has no apparent relation to syphilis or other hereditary taint, or to consanguinity of marriage. Racial peculiarity appears to have some influence; of the published cases, all in which there is a statement as to nationality have been Jews. Both sexes are liable; of nineteen cases in which the sex is given, there were eight males and eleven females.

The authors give three stages of the disease:

1. The child, probably born at full term, shows no symptoms of disease until about the end of the third month. Then some weakness of the muscles of the back and neck is observed, and the child is believed to see badly. On ophthalmoscopic examination definite and characteristic appearances are discovered. These consist of symmetrical changes at the macula lutea, in which situation is a whitish-gray patch, nearly twice the size of the optic disc, slightly raised above the general surface of

the retina, oval in shape, with softened edges. A few retinal vessels are visible on it at its periphery. In the center of the patch is seen the fovea as a dark-red spot. The optic papilla at this date shows no decided changes, but later there are well-marked optic atrophy and blindness. The changes at the macula, however, remain unaltered from the date of their appearance till the close of life. That they are not congenital is proved by an observation by Tay, and by examination of the authors' second case at the age of three months.

2. The child is unable to sit up, and its head falls backwards if unsupported; when lying on its back it is unable to turn on either side. It grasps objects very feebly and is apathetic, taking no notice of its surroundings. Vision is reduced to perception of light, but the sense of hearing is acute and remains so during life.

3. Atrophy of the enfeebled muscles ensues, and soon those of the whole body are involved. The child becomes very emaciated. The deep reflexes are exaggerated, and later rigidity of the extremities and retraction of the head become prominent features. Convulsions have been noted in one or two instances during the course of the disease, but they are not the rule.

The duration of life varies from one and a half to two and a half years, but is usually less than two years. All the subjects of this disease die.

Degeneration of the neurons of the cerebral cortex is the fundamental change in these cases; and the evidence is all in favor of this being a primary degeneration of the nerve-elements. It is, moreover, a progressive change. With such alterations in the cortex it is not surprising that there should be degeneration of the fibres of the corona radiata, and of the pyramidal tracts throughout their whole course through the pons, medulla, and spinal cord.

The other tracts in which degenerative changes are found are the fillet, the descending root of the fifth nerve, and the superior cerebellar peduncles, the affection being symmetrical on the two sides.

Examination of the eyes showed that the retina in the macular region was much thickened from enlargement of the outer molecular layer, the tissue of which was spaced out; the change was most marked near the fovea, diminishing towards the periphery of the macular area. The other layers of the retina appeared normal, and no changes were visible in it except at the yellow spot. The optic nerve was atrophied, with over-growth of interstitial connective tissue, and a large increase in the number of round cells in the nerve. No inflamma-

tory exudation was found between the dural and pial sheaths.

The authors' conclusions as to the pathology of this remarkable disease are very briefly as follows:

The changes in the central nervous system confirm the clinical evidence that the disease is not congenital. No sign of congenital defect was found in any part of the nervous system examined. There is very little doubt that the changes in the pyramidal tracts are the result of, and occur later than, the degeneration of the pyramidal cells of the cortex cerebri, and the clinical evidence is in favor of this sequence.

The degeneration of the direct pyramidal tracts corresponds exactly with that found in the crossed pyramidal tracts.

No lesion of the posterior-column nuclei being present, the change met with in the fillet must be looked upon as a descending degeneration; the same conclusion applies to the degeneration of the descending root of the fifth nerve, and to the superior cerebellar peduncle.

The relationship of the ocular changes to those of the central nervous system is not very evident; this statement, however, applies more to the changes at the macula than the atrophy of the optic nerve, this latter condition being frequently associated with degenerative changes of the central nervous system.

The optic-nerve atrophy must be looked upon as a primary degeneration.

With regard to the changes in the retina, it is possible that they are due primarily to degeneration of the ganglion-cells of the retina, similar to that found in the pyramidal cells of the cerebral cortex.

Probably the optic-nerve atrophy and retinal changes are both dependent on a common cause, related to the changes in the brain.

G.

Mucus in Excretions

A. Schmidt (Bonn) is credited by *Bul. méd.* (No. 11, Feb. 6, 1898, p. 125), from *Deut. med. Woch.*, No. 1, with the following concerning the function of mucus: In the respiratory tracts it prevents dessication of the mucous membrane, and catches dust and bacteria. In the alimentary tract it protects delicate epithelium from mechanical or chemical injury. Besides, mucus is an unfavorable medium for development of bacteria (pathogenic), few of them being able to liquefy it. In normal conditions mucus is secreted only in small quantity; but, if it is mixed with pus-cells it indicates destruction of the epithelium. Cells mixed with mucus indicate the source by the character of the epithelium. Acetic acid pre-

cipitates the mucus (as mucin). Transformation of mucus-cells into pus in the urine is a result of ammoniacal decomposition and is to be differentiated from mucus proper.

To distinguish bronchial from pneumonic mucus some of the sputum is hardened in sublimate, 5 per cent., washed and treated with Bondi's tri-color solution, 1-30. If this reddens it is pneumonic, if it is turned green it is bronchial, because of the mucin. Chemical analysis of intestinal mucus is difficult because it is digested by the digestive juices and liquefied by the coli bacilli. In bronchiectasis and putrid bronchitis the mucus is liquefied by the action of bacteria. When mucus is entirely absent from an excretion, it means that the mucous membrane is atrophied and changed into a connective-tissue membrane secreting pus.

H.

Some Unusual Causes of Otagia

In the April number of *The Laryngoscope* (Vol. IV., No. 4, 1898) there appears an article by Drs. J. C. Lester and V. Gomez, with the above caption. The writers, at the outset, refer to that form of otalgia which is at times found in neurasthenia. The history and treatment of a typical case are cited, which briefly are as follows:

A bookkeeper, aged 23, complained of persistent acute otalgia of two weeks' duration. The pain radiated towards the angle of the jaw. Tinnitus was persistent in both ears; slight deafness, and slight vertigo. He complained of excessive nervousness and insomnia. Tuning-fork's reactions gave negative results. Upper tone-limit was slightly reduced. Hearing-distance for watch, whisper, and speech was normal. No middle-ear lesion was discernible. Treatment consisted of small doses of sodium bromide and *avena sativa*, combined with morning sponge-baths. Patient was ordered a light repast upon retiring. Under this treatment the patient was cured in three weeks.

In hysteria otalgia sometimes obtains. It is intermittent, and not symmetrical. Both these points, combined with the patient's exaggerated nervous condition, are considered diagnostic.

Another condition referred to as causing otalgia was the presence of an epithelial scale resting upon the drum-membrane, or canal-wall. The introduction of oleaginous substances giving rise to an otomycosis is also considered as productive of otalgia. Certain drugs were also referred to, such as salicylic acid, quinine, iodide, etc. Malarial intoxication, nasal stenosis, the various neoplasms, anemia, and the luetic dyscrasia, as well as tonsillitis, pharyngeal

and laryngeal ulcerative processes, whether tuberculous or otherwise, were also cited as causes of otalgia.

The article concludes with a caution that the differentiation between true otalgia of reflex origin and aural pain of inflammatory origin should be carefully differentiated, which many times becomes a difficult matter. G.

The Pathognomonic Value of Lactic Acid

Dr. Boas (*Inter. Clin.*, Vol. IV, Series 7) says that lactic acid is not of itself pathognomonic of any condition, notwithstanding the many claims to the affirmative. Originally he hoped that it was going to prove an absolutely pathognomonic symptom of cancer, but his hopes have not been fulfilled. He hoped further, in vain, that it would make an early diagnosis of cancer possible. Despite the fact, however, that lactic acid has lost its pathognomonic significance in cancer cases, it still remains the surest symptom in cases where no tumor is palpable. Where only absence of hydrochloric acid is noted the case remains extremely doubtful unless other symptoms are present, but where there is also noted the presence of lactic acid then there is more than a strong suspicion of the presence of cancer. The clinical course of the affection must supply the other symptoms that confirm the diagnosis of cancer. The early diagnosis of gastric cancer is then not yet possible. The development of cancer-nodules in their first stage, when operation would be so favorable, gives either no symptoms or no characteristic ones. "What shall I say, then," the author continues, "with regard to the present position of the diagnosis of stomach-diseases by clinical investigations? Only this, that so far careful investigations have brought us no pathognomonic symptoms; that we must still consider carefully all the circumstances of the case in order to make a proper diagnosis, and that experience in the handling of cases has not yet been superseded by ready-made tests that make the diagnosis for us." S.

The Treatment of Rheumatoid Arthritis

Dr. Bannatyne, who as physician of the Royal Mineral Hospital at Bath, England (*Aerzt. Rund.*, Vol. VIII. No. 13, p. 193), has had a very large experience with the different forms of rheumatoid arthritis, writes that since he began to use the different combinations of guaiacol, the course and prognosis of that affection are distinctly more favorable. Of all the preparations of guaiacol, he finds the carbonate

the best for internal administration. If given in doses of 5 to 15 grn. three times daily its effects become apparent very quickly. Besides the carbonate internally, Dr. Bannatyne paints a mixture of equal parts of pure guaiacol and olive-oil over the affected joints at night. The author has yet to see any bad effects from the treatment. The report of an extraordinarily severe case is appended. The patient, a boy of 12, was, when received into the hospital, in a dying condition. He was reduced to a skeleton, was perfectly helpless, the least movement caused him the acutest pain. The hands, fingers, right shoulder, neck, chin, hip-joints, knee-joints, and ankles were inflamed and crippled. Mitral systolic murmur: Pulse 126, thread-like. Under the above treatment, followed later by warm baths, the boy recovered and became well. R.

Secretion-neurosis of the Colon

Dr. Bryan Robinson concludes an article with the above title (*Mathews' Jour. of Rec. and Gastro-Int. Dis.*, Jan., 1898) with the following summary:

1. The above disease should be termed secretion-neurosis and enteritis. The first is of neurotic origin and course.
2. Both secretion-neurosis and enteritis may coexist.
3. Secretion-neurosis of the colon occurs chiefly in neurotic females (80 per cent.).
4. It is closely associated with genital disease.
5. It is frequently preceded by constipation.
6. The continuation of the disease is partly due to an irritable, vicious habit of excessive epithelial activity.
7. The disease is characterized by colicky pains, with the evacuation of mucous masses.
8. The disease is not fatal, is variable and erratic in the number of attacks, with an indefinite prognosis.
9. Chemically the evacuations consist of mucin and an albuminous substance.
10. Microscopically there are seen hyaline bodies, cylindrical epithelium, cholesterol crystals, triple phosphates, round cells, various kinds of micro-organisms and pigment.
11. Secretion-neurosis of the colon is comparable to the secretion-neurosis of the endometrium (membranous dysmenorrhea) or bronchial croup.
12. Secretion-neurosis of the colon appears to be limited chiefly to the part of the colon supplied by the inferior mesenteric ganglion, i. e., to the fecal reservoir (the left half of the transverse colon, the descending colon, the sigmoid and the rectum). R.

SURGERY

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Experimental Researches into Surgical Shock in Abdominal and Genito-urinary Operations

After relating in detail the above experiments made upon animals, Dr. Crile (*Am. Gyn. and Obstet. Jour.*, March, 1898) arrives among others at the following conclusions:

The less the injury to the tissues, the less was the shock; the less the hemorrhage, the lighter the shock. In using anesthetics, the horizontal postures, or the head inclined, were found most favorable. Mechanical interference with the large venous trunks it was found necessary to avoid. The abdominal cavity is shock-producing in something like a direct ratio of the distance from the pelvis, the pyloric region being probably most, and the floor of the pelvis least, shock-producing.

Preliminary administration of alcohol did not seem to favorably affect the results. The same may be said of morphine. Atropine, on the whole, seemed to diminish the amount of shock; but on account of taking off thereby the vagal control from the heart, the blood-pressure curve was very irregular. Cocaine, hypodermically, to a great extent prevents vaso-motor splanchnic changes, and the general blood-pressure in the cocaine experiments was almost as well sustained under like procedures as in the experiments in which the splanchnic arteries or the aorta had been closed previous to the splanchnic experiment. The writer also gives his researches as to the immediate treatment of shock.

1. Aqueous extract of suprarenal capsules of sheep produced an immediate and marked rise in blood-pressure. The fall of the pressure was, however, as rapid as the rise.

2. Strychnine sulphate caused a marked rise in all the pressures. The rise was slower, but was well sustained.

3. Artificial respiration was found of undoubted importance. It acted by increasing the supply of oxygen in the blood, which is insufficient in shock.

4. Intravenous infusion of normal saline solution causes, in the first instance, an increase in the venous pressure in the vena cava, and, consequently, the output of the heart is at once increased, the amplitude of the strokes lengthened. The chambers being full of blood, contractions, in consequence, become more forcible, and the blood-pressure rises several beats after the

beginning of the saline flow. The peripheral venous, the vena cava, portal, peripheral, cephalic, and central pressures all rise together. The rise of the vena cava and peripheral venous appears first, that of the portal last, but proportionately higher than the other pressures. Injections of quantities of 50 c.c. at intervals as needed serve the purpose well. If a small quantity is injected, the rise will likely not be sustained. Quantities up to twice the amount of blood calculated to be in the animal have been given before the pressure was sustained. After this considerable injection the wounds everywhere began oozing and the tissues became fairly wet. Hemorrhages that had been insignificant recurred vigorously. The effect is apparently wholly mechanical. Hemorrhage, after injection of considerable saline, shows little tendency to spontaneous arrest or clotting. The combination of small and frequently repeated hypodermic injections of strychnine, together with saline injections, makes a most effectual combination. Strychnine alone causes acceleration of the heart with shorter beats. Saline alone causes a more forcible, but a long, sweeping beat. The combination of both produces a more sustained effect and a more nearly normal beat. Small doses more frequently repeated, producing an effect similar to the steady increment of a continuously flowing stream of saline, have appeared to produce the best results. S.

Degeneracy Related to Deformities of Jaws and Irregularities of Teeth

E. S. Talbot contributes to *The Dent. Rev.* (No. 4, April 15, 1898) results of twenty-one years of study of causes of deformities of jaws and teeth in embryology, neurology, anthropology, sociology, criminology in public institutions here and in Europe. Morel and Lambroso had in their laws of degeneracy neglected the jaws and teeth. Spitzka, of New York, and Kiernan, of Chicago, had supplied the neglect in laws which covered the jaws and teeth, as outlined in the author's paper in *Inter. Dent. Jour.* (February, March, and April, 1897), in which he claimed the jaws and teeth the most important indexes of the physical nutrition of the individual from conception to full growth. Treatment of jaws and teeth, therefore, is more important than filling and replacing them. The coming dentist will have to expand jaws and correct irregularities of teeth more than to fill teeth, substitute others and treat pyorrhea alveolaris; he will, therefore, have to study causes in order to treat the deformities.

Kingsley, in his "Oral Deformities," pub-

lished in 1880, had found no more irregularities in idiots as a class than in the lower orders of society; in both amply developed jaws and teeth were the rule; narrow, pinched and V-shaped maxillæ and dental arches the exception. The author has under observation a young man whose head is like that of an anthropoid ape—small, with receding forehead, protruding superciliary ridges, small eyes with large sockets, high and large cheek-bones, small flat nose, big protruding jaws with massive rami and very large teeth, and especially prominent cuspids. Size of occiput alone differed from the ape type. He was animal in appetites, and at 29 became insane. "When arrest of the face takes place, the shape reverts to that of the anthropoid ape."

In scale of evolution the forehead becomes prominent and the jaws recede. The evolution proceeded from the Egyptian type to the Roman, and from that to the form in which the face reached the perpendicular line of Camper, which the author regards as the representation of the highest mental and physical development. At this point the human jaw is large enough to contain thirty-two sound and healthy teeth. In the past 1000 years there has been a decrease in the size of skulls of half an inch. "In cases of arrested development and contracted dental arches, at the present time, by actual measurement the decrease is from one to one and three-quarter inches."

While bones of the body develop from a nucleus, the teeth calcify from the periphery; are not influenced by individual defects after birth because of the early period at which they calcify, and are as large to-day as 3000 years ago. Hence, if jaws become too small for the large diameter of the teeth, a break in the dental arch must ensue, and also irregularities of the teeth follow.

Few contracted jaws are to be found among the foreign degenerate classes, as seen in our public institutions. In the English-speaking people this is a common stigma.

The author in his trip to Moscow visited all countries of Europe except Portugal and Lapland, and in all except Germany, Austria, Holland, France, Norway, Sweden, and England, contraction of the jaws was not observed; in the four first-named exceptions the percentage was very small, in the three last it was very large.

In most races of the world the perpendicular line of Camper's triangle has not been reached; in most Scandinavians and Anglo-Saxons it has been reached; the Swedes and English have passed far within it. In New England the same development

has been gained as with the English, but not so generally is this true of the Middle and Western States on account of intermarriage with other nationalities.

Observations of 10,000 faces from a street corner of London showed 82 per cent. with angles within the perpendicular. Of 3000 London school-children 93 per cent. were beyond the perpendicular.

Degeneracy of the human body is brought about by vicious habits, excesses, worry, fright, exhaustion, malnutrition, eruptive fevers after birth—all more efficacious on naturally degenerating structures, such as the face, jaws, teeth, and appendix vermiformis than on other structures. Complete arrest of development of well-formed face or appendix vermiformis may take place as result of a constitutional disease before the sixth year. It may afterwards be transmitted as inheritance.

Sufferers from hypertrophied nasal bones, mucous membranes, or polypi, or appendicitis are mostly degenerates. High and contracted vaults are not due to mouth-breathing, but to interaction of evolution and degeneracy. The vault is not pushed up, but is built downward by a lengthening of the alveolar process owing to the long rami. The presence of more than thirty-two teeth is atavism, a return to the type of lowest primates with forty-four teeth. If jaw is arrested, reversion to reptilian type in the V-shape results; or the sides may form the saddle of the carnivoran type—the formation of each being purely mechanical, due to the order of eruption of teeth. The arrested jaw is inherited, but not the deformed dental arch. In 3000 models parent and child were not alike. When the third molar and lateral incisor are missing it indicates degeneracy at conception and arrest of the jaws as well. H.

The Bone-clamp in Ununited Fractures, Etc.

Clayton Parkhill (*Ann. of Surg.*, Vol. XXVII, pp. 553-570, 1898) calls attention to a method for the fixation of the fragments in recent fractures with a tendency to displacement, in ununited fractures and in fractures with malunion. The instrument used is made in three sizes to fit the various bones. It consists of four screw shafts, which are long enough to project through the soft parts and be firmly held in their proper positions by external plates and clamps. After the shafts have been screwed into holes drilled into the fragments and the clamps applied to their free ends, the wound is sutured without drainage, and healing by first intention expected. This instrument is applicable to

all the long bones and also to the patella and ribs. After the recital of fourteen cases treated by this apparatus, the article is concluded by the following:

The author claims for this instrument:

1. That union has been secured in every case in which it has been used, as against 56 per cent. of cures by all mechanical means, according to the statistics of Bruns and Gurlt.

2. That it is easily and accurately adjusted.

3. That it prevents both longitudinal and lateral motion between the fragments.

4. That the presence of the shafts in the bone stimulates the production of osseous tissue.

5. That nothing is left in the tissue that might reduce its vitality or lead to pain and infection.

6. That no secondary operation is necessitated.

T.

Osteotomy of the Femur as a Treatment for Tuberculous Disease of the Hip

R. F. Tobin (*Med. Press and Circular*, No. 3075, p. 376) calls attention to six pronounced cases of tuberculous disease of the hip in which osteotomy of the femur was performed, the bone being divided obliquely from the greater to the lesser trochanter, and the limb straightened. The cases progressed favorably, without pain or rise of temperature, the patients walking well, with straightened limbs, in from six to nine months. In every instance complete union of the fracture has taken place within six weeks, the progress of the disease being arrested as instanced by the subsidence of swelling and the non-formation of abscess. It was discontent with the result of present methods of treatment which induced the author to submit these cases of morbus coxæ in an early stage to osteotomy of the femur on a level with the lesser trochanter. The cases which are considered suitable for osteotomy are those in which there are no indications of disintegration of the joint, or of septic abscess, or of the disease being situated in the acetabulum, and in which, with the patient lying on his back and lordosis guarded against, the thigh on the affected side makes an angle of more than 30 degrees with the bed. Given such a case, the operation is performed as follows: The patient is placed lying on his sound side, with the affected limb drawn well in front of its fellow, and supported at its upper third by a moist sand-bag of suitable size and shape. By depressing the knee all concussion from the joint can be diverted. Through an incision of sufficient size an

osteotome is made to divide the bone pretty fully, excepting a little of its under surface, which is fractured. The bone is thus divided obliquely, from the lower border of the greater trochanter to the lesser trochanter. The patient is then turned on his back, and while an assistant keeps the spine in contact with the table by fully flexing the sound thigh on the abdomen, the affected one is brought down till the posterior surface of the knee is also in contact with the table. To guard against adduction or abduction both limbs are "dressed" by a straight rod resting on the anterior superior spines of the ilium. If there has been adduction, some abduction is introduced in the new position. The wound is partially closed, the limbs fixed in a modified Bryant's splint, and the assistant placed on a plank bed with a hair mattress.

The advantages claimed for this proceeding over the ordinary treatment by extension are:

1. It at once puts the joint and the limb in the best position for rest.

2. Osteotomy brings on the scene a very beneficent factor, in that on section of the bone there occurs in the neighborhood of the point of section an alteration of the bone's economy that has, as a rule, a salutary effect on any tuberculous inflammation there existing. On the fact that tuberculous bone tends to mend after being incised, Kirkpatrick, Stoker, Stokes, and MacNamara have founded methods of treatment which have yielded good results. Finally, no treatment can give quickly to a diseased hip the strength necessary to bear the weight of the body; furthermore, the treatment of hip-joint disease has by no means reached its highest development.

L.

Gastric Ulcer

Dr. Seymour Taylor, in discussing this subject before the Medical Society of London (*Brit. Med. Jour.*, No. 1942, 1898), described two well-recognized varieties of innocent ulcer of the stomach: (1) The so-called chronic ulcer; (2) the perforating or acute ulcer. He believed that these were distinct diseases, both in their etiology and in their pathology. The chronic ulcer affected males in the proportion of 72 per cent. of the cases, mostly between 45 and 60 years of age. It did not occur exclusively in the poor, but rather in those who led busy, excited lives, and were well off enough to indulge in large table extravagances. The chronic or spreading ulcer was usually situated near the pylorus; it was irregular in outline, and the surrounding tissue consisted of the proliferated and heaped-up

cellular elements of the stomach-coats. Before perforation could take place, there was almost always inflammatory adhesion to some solid viscus. As regards symptoms, there might be no premonitory sign, the lesion occasionally only being discovered post mortem. 'One characteristic feature was the large amount of vomited matter. There might be intervals of comparative health and freedom from pain and distress, but they returned on the first indiscretion of diet; the patients' appetites were depraved, so that treatment was often disappointing. He insisted on the extremely infrequent occurrence of the clean punched-out ulcer in males, as far as his researches had gone in the London Hospital museums only two instances had been found. The perforating ulcer was most frequent in women, being, indeed, almost limited to this sex. Moreover, the victims were mostly single women, between the ages of 16 and 30. The influence of occupation and surroundings was well marked, and there was a great similarity of etiology between chlorosis and acute ulcer. In both diseases a great preponderance of cases occurred in single young women, whilst possibly domestic servants and dressmakers accounted for more examples than any other rank and calling. It was noteworthy that in almost every case of acute gastric ulcer there was a previous history pointing to chlorosis. The site of the ulcer was variable, but its shape was constant. Though most frequently situated near the lesser curve of the stomach, it might be found in the cardiac region, on either curvature and on either aspect of the viscus. In contrast with the chronic ulcer there was no marked inflammatory proliferated zone, and during the stage of active process there was no obvious alteration of tunics in the immediate neighborhood. He suggested that the lesion was a nerve-lesion of the nature of neurotic dystrophy. He commented on the marked differences in the symptomatology of the two varieties of ulcer, alluding incidentally to the fact that the severity of the symptoms was often in inverse ratio to the gravity of the pathological lesions. The pathological theories put forward to explain its occurrence were: (1) mechanical, (2) vascular, (3) glandular, and (4) neurotic. He dismissed the hypothesis of thrombosis-necrosis as untenable, and he was unable to admit that local traumatism could be incriminated. The vascular theory he regarded as unsatisfactory because it did not explain why the ulcer, if thus caused, should be single. The glandular theory did not commend itself to him, because it ignored the fact that the disease was confined to one

sex, and occurred only in early adult life. In fact, a local neurosis was, to his mind, the only satisfactory pathology. In support of this view, he instanced the great preponderance of cases amongst young women, the character of the lesion, which reminded one of perforating ulcer of the foot in tabes as well as of those met with in herpes, and lastly, its undoubted association with chlorosis. In conclusion, he urged not to delay affording such patients surgical skill, even though there was reason to suspect that the ulcer had perforated into the peritoneum. Delay meant death, and no patient should be allowed to perish for want of a laparotomy. G.

Amputation of the Penis; Description of a New Technique

In the *Jour. of Cut. and Gen.-Urin. Dis.*, May, 1898, Dr. Ramon Guiteras gives a description of a new method of amputating the penis, the technique of which is as follows:

After the parts are thoroughly cleansed according to the latest methods, a rubber band or catheter is tied about the base of the penis, and a circular incision is made through the integument of the organ at a point below the growth where it is healthy. The skin is then dissected back for three-quarters of an inch, thus making a flap, which is rolled upward toward the base of the organ. A sound, about a No. 20 (French) in size, is then passed into the urethra, and held by an assistant in such a manner that the penis is at a right angle to the body. The blade of a straight bistoury is then inserted with the cutting edge pointing upward at the point to which the flap has been rolled, and is worked between the urethra and the corpora cavernosa until it comes out at a corresponding point on the other side. The blade is then turned toward the corpora cavernosa and is made to cut through them. The corpora cavernosa are then taken between the fingers of the left hand and traction is exerted upon them while they are being dissected away from the urethra for the distance of one-half an inch. The cutting edge is then turned toward the urethra, and the sound, having been withdrawn, it is cut through at this point.

Thus far the operation consists of an amputation through the anterior part of the organ in such a way that the stump or divided corpora cavernosa has an urethra half an inch longer than itself, and an integumentary flap three-fourths of an inch longer.

The two dorsal arteries and the two arteries of the corpora cavernosa are then

caught and ligated with fine catgut; also, the small artery of the septum, if present, and any oozing of blood is controlled as well as possible by peroxide of hydrogen or hot water.

The margins of the cut integument at the upper and lower surfaces of the organ in the median line are then caught with the thumb-forceps, and traction-sutures are also passed through it and held by assistants. The urethra is then caught in the same way above and below the median line, and traction-sutures are also passed through it and held by assistants in such a manner that the middle of the cut surface of the urethra corresponds to the junction of the lower and middle third of the cut surface of the integument.

A fine silk suture is then passed through the integument and urethra at each extremity of the canal, passing entirely through the walls of the integument on either side, but only through the walls of the urethra and not through its lumen. These are then tied, thus holding the urethra and skin in place in the relations already mentioned.

After this, four sutures of fine silk are passed through the integument and the urethra, piercing the lumen. They are then pulled up in the middle and tied on either side. Thus the skin and the urethra are held together by ten sutures, four on each side and one on each extremity, well placed with thorough approximation.

The parts are then washed with sterilized water and the traction-sutures are withdrawn, thus leaving a stump. A sound is then passed through the new canal into the bladder, after which a No. 10 French catheter is passed into the viscus and allowed to remain there for a few days.

The wound is then dressed with iodoform gauze and the catheter is held in place with a piece of adhesive plaster attached to the pubes. Extirpation of the inguinal glands should also be made in cases where these can be felt. The chains of glands implicated, which are found in these cases, are those of the horizontal and vertical sets.

W.

The Technique of Extra-abdominal Shortening of the Round Ligaments

Augustin H. Goelet (*Intern. Jour. of Surg.*, N. Y., Vol. XI, pp. 129-133, 1898) details at some length an operation which has been popularized by Dr. J. K. Kellog, and which consists in making a small incision, not more than an inch long, over the internal ring, through the skin and underlying fascia, down to and exposing the external oblique muscle, then retracting the lower edge of the incision sufficiently to ex-

pose the upper border of Poupart's ligament, and penetrating the roof of the inguinal canal just above it with a small incision the length of a narrow knife-blade, just sufficient to insert a blunt hook and fish out the round ligament. The ligament is secured in the position desired, by burying it beneath the fibers of the external oblique muscle and the introduction of two sutures.

The advantages of this operation over the other method of shortening the round ligament are, viz.:

1. The ligaments are not cut or detached.
2. The inguinal canal is not laid open, and it leaves no liability to hernia.
3. The ligament at this point (internal ring) can always be found, and is strong enough to bear shortening and sustain the uterus.
4. The operation can be more quickly executed, requiring not more than from eight to ten minutes for each side from start to finish.
5. The ligament is buried in the succulent muscle, which provides ample nutrition.
6. The attachment is secure and does not give way.
7. Primary union is always secured.
8. It does not require more than an inch incision through the skin, and not more than a quarter of an inch through the muscular roof of the inguinal canal.
9. No disfiguring scar remains. T.

Large Suppurating Ovarian Cysts

Dr. Wm. E. Swan (*N. Y. Med. Jour.*, Vol. LXVII, p. 496, 1898) reports two cases of large suppurating ovarian cysts, with operation and complete recovery. In both there were extensive adhesions, so that part of the sac had to be left in situ. Two points are brought out in these cases which are of especial importance. One is the overcoming of adhesions, which are too old and tough to allow of their easy rupture, according to the method practiced by Dr. Kelly, of Johns Hopkins. His plan is to "increase the cyst-wall to the extent of about one-half its thickness and 2 c.c. from the gut all around the area of adhesions, and then splitting the wall of the cyst in its line of cleavage—much after the fashion of splitting leather." This leaves "a dead space and a portion of uncontaminated cyst-wall in the peritoneal cavity, which in no way interrupts the recovery of the patient."

The second point is to "disregard the apparent demand for drainage, which existed to an unusual degree in the two cases above described, and after flushing the pelvic and peritoneal cavities with warm normal salt-solution, to leave in the peritoneal cavity

from 700 to 1500 c.c. of this fluid, close the abdomen without drainage and elevate the foot of the patient's cot 20 inches for 12 to 24 hours, thus assisting to establish an intraperitoneal current toward the diaphragm, which has been amply demonstrated to constitute the very best form of abdominal drainage." T.

Disinfection of the Hands for Operations

Dr. Menge (*Richmond Jour. of Pract.*, Vol. XII, No. 4, 1898) proposes the following method: The hands are first thoroughly washed in hot water and a potassium soap, a nail-brush being vigorously used, and particular attention being paid to the finger-nails and spaces around them. They are then immersed in an antiseptic solution of sufficient strength to kill bacteria in a short space of time. Either bichloride or alcohol may be used for this purpose. A bath of 70 per cent. of alcohol is then used until the skin is thoroughly permeated, and the hands wiped dry on a sterile towel. A solution of paraffin and xylol is then poured over the hands, which, when the xylol evaporates, forms a thin coating, to a great extent playing the part of the operating-glove. S.

The Intra-peritoneal Operation for Abdominal Hydatids by Russell's Method

Thomas Fiaschi (*Austral. Med. Gaz.*, Sydney, Vol. CXCVI, pp. 5-9, 1898) reports five cases of abdominal hydatids treated according to the operation advised by Mr. Hamilton Russell. Russell's operation consists in leaving the incision made into the ectocyst for the purpose of removing its contents unsutured and free in the abdominal cavity. The avoidance of the irritative effects of drainage with gauze tubing or other mechanical contrivance, does away, to an almost absolute degree, with the prolonged discharge which is almost a positive consequence to Lindeman's method, and what little discharge does form is sterile and rapidly absorbed by the peritoneum.

All the cases reported made rapid and successful recoveries; but in one there was a return of the cyst, which, however, was not a redevelopment in the old ectocyst, but a new cyst growing in close proximity to the old one. The advantages claimed for the Russell method are as follows:

1. Rapid and painless recovery; no sinus or weak scars being left behind.
2. Less danger of exhaustion on account of the rapidity of recovery.
3. Less danger of septic infection, because of the avoidance of daily changes in

the dressings. These changes would be necessitated if such a method as Lindeman's were adopted.

4. Russell's method is of especial advantage in dealing with hydatids on the convex surface of the liver. This is because of the necessity of approaching the tumor through the chest-wall, and the obvious advantages of immediate suture in preference to drainage in such a case.

So important is cleanliness in Russell's method that Dr. Fiaschi closes his article by quoting three rules to be strictly observed:

The first is asepsis, the second asepsis, and the third is asepsis. J.

A Method of Exposing and Operating on the Kidney without Division of Muscles, Vessels, or Nerves

A. W. Mayo Robson (*London Lancet*, Vol. 1, No. 1315, 1898) calls attention to the following method of reaching the kidney:

"The incision beginning at the inner side of the ant. sup. spina is carried backwards obliquely towards the tip of the last rib. The fibers of the external oblique and its aponeurosis are then split and retracted, exposing the internal oblique muscle, the muscular fasciculi of which are split in a line between the ninth costal cartilage and the post-super. spina of the ilium.

"When the fingers are pushed through the internal oblique to split it, the fibers of the transversalis are pierced and can be retracted along with the oblique muscle. A diamond-shaped space is thus formed, at the bottom of which is seen the transversalis fascia, which is then incised, exposing the perirenal fat, and on pushing the fingers through this the kidney is easily reached in whatever position it may be."

Mr. Robson then gives the histories of eleven cases, and concludes by stating the following advantages of this method of reaching the kidney:

1. There is no division of muscle, and therefore no weakening of the abdominal wall.
2. No vessels or nerves are divided.
3. The operation is done with the patient lying on the back, which is of great benefit both to operator and assistants.
4. Lessening of hemorrhage and time means lessening of shock.
5. On account of the ease and comparative lack of danger, explorative operations are more justifiable than they would be in other methods..
6. Convalescence is shortened, as the patient is allowed to get out of bed in two weeks or sooner, since there is no danger of the wound giving way. T.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D., HERMAN B. SHEFFIELD, M.D.

On Endometritis during Pregnancy

In the *Zeitsch. f. Geb. u. Gynäk.*, Vol. XXXVI, p. 383, Dr. Emanuel states that he believes Donat's theory of the microbic origin of endometritis of the gravid uterus to be established, and in further confirmation reports a case occurring in his own practice. The patient had aborted twice, and at each abortion the author was able to detect the presence of micro-organisms in the decidua and serotina. A third time she aborted, and he examined the placenta with care. He discovered a diplococcus with all the characters of a gonococcus.

He concludes from this and other studies made, that endometritis of the gravid uterus is nearly always dependent upon a pre-existent chronic endometritis, and that this is nearly always due to the gonococcus.

J.

Pseudo-puerperal Rheumatism

The author, Dr. Begouin, bases his studies upon forty cases of pseudo-rheumatism (*Ann. de Gyn.*, 1 and 2, 1898). He states that this condition is absolutely the same as arthritic blennorrhagia, although the bacteriological diagnosis has not yet been able to definitely prove it. He founds his opinion upon the clinical picture presented and states that ordinary articular rheumatism complicating pregnancy can very readily be diagnosed and eliminated.

J.

Vomiting of Pregnancy

None of the many theories explaining vomitus gravidarum is, according to Dr. C. S. Bacon (*Jour. of the Am. Med. Assn.*, Vol. XXX, No. 7, 1898), indisputable. A large number of them are theories of reflex vomiting which assume a peripheral source of irritation in some part of the genital tract. One theory assumes a stretching of the uterine fibers and disturbance of the uterus by the growing egg. G. Hewitt believed that vomiting is due to displacement of the uterus. Others believe irritation in or inflammation of the cervix with erosion of the os externum to be the cause of vomitus gravidarum. Horowitz believes that inflammation of the parenchyma of the uterus is the cause of vomiting, a view similar to that held by Veit, who finds in endometritis a very important etiologic factor.

Tusskai assumes an irritation of the peritoneal coat of the uterus due to trophic disturbances following the growth of the uterus. The theory of Kaltenbach that hyperemesis gravidarum is due to hysteria cannot explain all cases, for there are many cases in non-hysterical subjects, but there is no doubt that a psychopathic condition is a very important element in the causation of the disease. The theory of direct vomiting due solely to immediate irritation of the vomiting-center by poisons circulating in the blood, or to nutritional changes caused by disturbance in the circulation in the medullary centers, cannot be maintained, for reflex action cannot be wholly ignored. Hence we must assume at the present time, as the only theory that will explain all the facts and make of vomitus gravidarum a single disease, one that takes account of the condition of the vomiting-center and also of the sources of peripheral irritation. We must assume that in two-thirds of all cases of pregnancy there exists an increased irritability of the medullary centre due wholly or in part to one or both of these two factors:

1. Nutritional changes resulting from circulatory disturbances.

2. Poisoning from toxic elements circulating in the blood.

We must further assume that this abnormally irritable center is acted upon by different impulses sent from one or more of a variety of peripheral sources. Among the most important causes of reflex irritation are an incarcerated, retroflexed uterus, abdominal adhesions of the uterus, pathologic changes in the uterine wall resulting from endometritis, pelvic congestion, constipation, chronic gastritis, etc. To these sources of afferent impulses must be added the psychopathic or hysterical condition, which is of especial importance in the more serious cases. The knowledge of the etiology of vomiting of pregnancy gives us the clew to its successful management. The more serious cases may, as a rule, be prevented by caring for eating, bathing, clothing, exercise, sleep, etc., preventing constipation, and especially securing a healthful mental condition of the patient.

The active treatment consists in allaying the irritability of the nervous centers, and removing the sources of peripheral irritation. Since the irritability of the medullary centers is due to disturbances of the circulation, and to intoxication, the means for treating this condition are pointed to us. For maintaining a normal circulation the horizontal position, stimulation of the cutaneous capillary circulation, use of stimulant and vasomotor regulators, and injection

tion of artificial blood-serum, are the measures which promise the most.

For antagonizing the circulating toxins all measures which stimulate the renal and intestinal enuncitories are indicated. If the psychopathic or hysteric state be a factor in the vomiting, it must be combated by proper management. As in the treatment of hysteria, so here it may be necessary to isolate the patient under the care of an experienced nurse and use all mental and moral forces, including suggestion. The constipated bowels should be carefully emptied with enemata and massage; a gastric catarrh may be treated with lavage, a displaced uterus reflexed, and pelvic congestion corrected by ice-bags.

Under this plan of treatment most cases can, in the author's opinion, be controlled that have not advanced to the last stages of starvation. In the extreme cases, the subcutaneous injection of large quantities of normal saline solution is proposed because of its effect in improving the circulation, in the elimination of toxin through the clogged enuncitories, and supplying two important elements of food, water and chlorides.

The author opposes the induction of abortion at all stages. When it is a safe measure to employ it is unnecessary, and in extreme cases it adds greatly to the danger, rarely stops vomiting, and can be substituted by artificial serum. Three fatal cases are reported by the author to illustrate the correctness of his assertion. S.

A Simple Method of Treatment of Post-partum Hemorrhages Due to Atony of the Uterus

Dr. Arendt, of Berlin (*Therap. Monatsch.*, Vol. XII, No. 1), says that he has found a method of controlling uterine hemorrhage, which is much superior to tamponade, being much simpler and much easier and quicker of execution. The method consists simply in getting a hold of the uterus with one or two bullet-forceps and in drawing it down slowly but forcibly. By this procedure the uterus becomes almost completely emptied of blood, and every trace of hemorrhage from the region of the cervix or of the uterine cavity ceases. Where the diagnosis is doubtful between atony of the uterus and injury to the soft parts, the author says: Pull the uterus down with the forceps, and if the hemorrhage still continues, be sure you have to deal with a laceration. Dr. Arendt treated in this way eleven cases, and in each case a single drawing-down of the uterus sufficed to bring the hemorrhage to a standstill. In order to excite uterine contractions, alternate

pulling and letting-go of the forceps is best. The author thinks that even in tamponing the uterus, according to the method of Dührssen, the real factor in stopping the hemorrhage is the drawing-down of the uterus. R.

Extra-uterine Pregnancy

Dr. Cordier (*Annals of Gyn. and Ped.*) concludes:

1. Extra-uterine pregnancy is more frequent than is generally believed.
2. When left to nature's resources, the mortality is very high, the patient dying from primary hemorrhage, or, secondarily, from sepsis and peritonitis.
3. The diagnosis is usually easy after the rupture takes place.
4. The surgical mortality, in skilled hands, when done in time, is very low.
5. No case of ruptured tubal pregnancy is out of danger until after a good ligature has secured the bleeding points.
6. The abdominal route is the best and safest manner of approach in these cases.
7. Most cases should be irrigated properly and drained after removing the diseased tube and liberating all adhesions. S.

Uretero-vaginal and Uretero-abdominal Fistulae

In a paper read before the Chicago Gynecological Society (March 25, 1898) Dr. A. H. Ferguson arrives at the following conclusions:

1. The left ureter is more frequently the seat of trouble than the right.
2. The most frequent variety is the uretero-vaginal, and the rarest the uretero-abdominal fistula.
3. The most common cause is difficult labor, and forceps-delivery is a prominent etiologic factor.
4. Of all the operations performed in the pelvis, vaginal hysterectomy is the most frequent cause of ureteral fistula.
5. Other conditions being favorable, all cases of ureteral fistula are curable by operation. In all cases of uretero-vaginal fistula the direct method of operating should be selected, and no particular operator's method is applicable to all cases. When the ureteral opening is situated close to the bladder, Schede's operation is the most surgical, and is applicable to the greater number of cases; when situated far away from the bladder, a plastic operation should be tried before a graver or more mutilating procedure is thought of. Intraperitoneal operations are suitable for the abdominal fistulae.
6. For the cure of uretero-vaginal fistulae it is, in the author's opinion, absolutely un-

justifiable to perform hysterectomy, nephrectomy, or kolpocleisis. When septic infection of the kidney occurs it may be necessary to open or remove it. It bespeaks lack of surgical ability to remove a kidney, a uterus, or close a vagina in these cases of simple fistula.

7. Another procedure uncalled for is transplanting of the cervix uteri into the bladder for the treatment of uretero-uterine fistula, for it causes sterility, and the menstrual flow is abnormally directed; and, besides, a disturbed bladder might cause a backward flow of urine into the uterus, Fallopian tubes, or even peritoneal cavity, depending upon the condition of the organs.

8. Directing the urine into a bowel is only justified when any other operation cannot be performed. While uretero-enterostomy has been successfully performed, it has but little to recommend it on general principles. S.

Dry Labor

Dr. A. H. P. Leuf (*The Med. Council*, March, 1898) says that after premature rupture of the membranes there is often a diminution of the lubricating cervico-vaginal mucus so essential to the easy passage of the child. Whether this be due to the washing away of the mucus already exuded or to other causes is immaterial at present; for my purpose is to advocate a good old substitute for the absent lubricant. My custom under these conditions is to use several ounces of lard. This I introduce in lumps and spread it about the vagina with two fingers. A good stiff vaseline is even better, if the labor is very tedious, for it remains longer. Either lubricant can bereadily combined with an antiseptic, the only implements required being a large shallow plate and a table-knife for a spatula. The very simplicity of the remedy makes it easily forgotten, but its efficacy merits a more permanent abiding-place in the obstetric memory. S.

Tuberculosis of the Ovaries

In a complete historical and pathological résumé of the subject of tuberculosis of the ovaries, Orthmann, in the *Berl. klin. Woch.*, p. 751, 1897, refers to 177 cases that he has been able to gather. In fifty-seven a microscopical examination was made, in forty-eight of these there was observed true tuberculosis, and in nine tubercular cysts. These were all secondary cases, and according to the author primary tuberculosis of the ovaries has never yet been observed in woman, although it has been experimentally produced in animals. The cases observed

were secondary to tuberculosis of the tubes and of the peritoneum, being about equally distributed. In tuberculosis of the ovary two forms are to be distinguished, tubercular peri-ovaritis and true tuberculosis, the former being diffuse or disseminated. True tuberculosis may be miliary, caseous, or with the formation of abscesses. The first variety, miliary tuberculosis of the ovary, requires a microscopical examination to verify the diagnosis. In the forty-eight cases tubercle bacilli were found in but nine. J.

Nursing during Pregnancy

In his inaugural, *Thèse de Paris*, 1898, Dr. P. Capart takes occasion to contradict the prevalent idea that nursing during pregnancy is hurtful to the mother and to the child. He believes it to be a mistaken doctrine that rachitis, gastro-enteritis, and even the death of the infant can result from continued nursing at this time. On the other hand, he shows that in other animals the milk is usually increased in amount or remains about the same up to within a very short time of parturition. He also quotes the analyses of Budin and Capart to show that the chemical composition of the milk does not suffer any appreciable changes. He concludes that, contrary to the prevalent ideas, nursing should not be discontinued if pregnancy occurs. The colostrum stage does not return with the advent of a new baby, and further, if the older child does not seem to get enough nourishment it is wiser to add some food by means of the bottle. J.

A New Operation for Vesico-vaginal Fistula

Stanmore Bishop (*The Practitioner*, Vol. LX, No. 4, page 415, 1898), the inventor of this operation, looks upon the re-formation of the bladder-wall as the essential point for cure, and considers the union of any raw surfaces in the vagina, although important, only of secondary value beyond the fact of supporting and strengthening the re-formed vesical wall. If the vaginal mucous membrane is utilized with the mucous side turned toward the bladder-cavity, where alone that kind of surface is of primary importance, and with no break in the edges at all, but making a perfectly continuous surface up to a narrow point of union, we shall have gone, the author believes, far toward solving the problem, and the loss of material in the vagina will be of very little consequence compared with the advantage obtained.

After the separation of the flap around the fistula, four double threads are passed,

their ends knotted and lying outside the vagina. A pair of curved forceps is passed through the urethra up to the fistula, and the four pairs of threads are brought together and their knotted ends placed within the grip of the forceps. If gentle traction is made upon these the circular flap is inverted into the bladder in such a way that the mucous membrane will face the bladder, whilst the raw connective-tissue surface will face itself and come easily together at the level of the bladder-wall, the innermost edges projecting as a tube into the bladder-cavity.

While traction upon these threads is gently maintained, and before the frill is inverted, a fine silk suture is carried round it just above its extremity; this passes through the connective tissue, but must carefully avoid the mucous membrane. This is now cut short, the frill inverted, and the guided threads divided and drawn through the urethra.

The advantages claimed by Dr. Bishop appear to be:

1. Absence of tension upon the uniting surfaces.
2. Mucous membrane is alone opposed to the action of the urine.
3. The cubic capacity of the bladder is not much decreased, as in other operations for a similar purpose.
4. The sutures are separated from the bladder by the mucous membrane in its entire thickness. S.

Foreign Body in the Vagina for Twenty-eight Years

Dr. A. S. Orloff (*Vratch*, Vol. XIX, p. 266) reports the following case, which is certainly unique. The patient was a woman of 80, very pale and emaciated, for the last two years completely bed-ridden. During the last seven or eight years she has had a bloody, ill-smelling discharge from the vagina, for which she took no treatment. She was induced to call in the author by the severe pain which she had experienced lately, especially in the rectum. On introducing his finger in the vagina the author discovered a foreign body, which after a thorough examination proved to be Zwang-Schilling's hysterophore. This now obsolete instrument is essentially a two-bladed pessary which two or three decades ago was used considerably in prolapsus uteri. It was introduced with the blades closed; by means of a screw the blades were opened up until they touched the sides of the pelvis; they thus supported both the uterus and the vaginal walls. On close investigation the doctor learned the following facts: The woman has always been healthy, has had

four daughters, of whom the youngest is now 53 years old. About thirty years ago she began to suffer with prolapse of the womb, for the relief of which the above-mentioned hysterophore was introduced two years later. For twenty years she felt so comfortable that she forgot all about it, not having removed it once in all those years. She had undertaken several religious pilgrimages on foot of several hundred miles each time, and has never experienced the least discomfort.

The hysterophore was found to lie in the right oblique diameter of the pelvis, and was so completely enveloped in layers of lime salts and uric-acid salts (from the running in of some urine into the vagina) that after the most careful and painstaking efforts to find and turn the screw, it was found impossible to do so. Nor was it found possible to turn the hysterophore in any direction, so completely was it incarcerated by the soft tissues. The vagina was strongly inflamed, with an abundance of secretion, but there was no loss of tissue, no cicatricial contraction, no fistulæ. It was decided either to remove the pessary by some operative procedure or to break it by the bone-forceps and remove it piecemeal, but the patient strenuously objected to further interference of any kind, and only asked to be given some anodynes. The doctor had to leave the pessary in its place and prescribed vaginal douches and anodynes. This is the only case on record where a large foreign body was worn such a long time (without douches and without a single removal), without causing loss of tissue, fistulæ, etc. In "Krankheiten der Vagina," Dr. Briesky reports a case of a woman of 68 who had worn a pessary without removing it for thirty-four years, but that woman had a very severe atresia vaginæ. R.

Laparotomy during Pregnancy

Dr. Poroshin (*Vratch*, Vol. XIX, p. 260) reports five cases of laparotomy during pregnancy—four for the removal of ovarian tumors, and one for the enucleation of a uterine fibroma, and having examined the literature of the subject he reaches the conclusion that pregnancy is no contra-indication to operations in general and to laparotomy in particular. Experience has shown that removal of ovarian tumors and uterine fibromata, entering the uterus to the abdominal walls, etc., may be performed during pregnancy without the least injury to the mother or the fetus. The most favorable months for ovariectomy are the first three months, while for fibromata the fourth and fifth months are the best. R.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M. D., WILLIAM J. ROBINSON, M. D.

Terralin

Eichhoff describes (*Pharm. Ztg.*, XLIII, p. 183) a new ointment-base for which he claims the advantages of non-liability to decompose or irritate, and considerable absorbent power. The new article, to which the name of "Terralin" has been given, is a mixture of gypsum, kaolin, silica, lanolin, glycerin, and antiseptics. It is yellowish-white and has a pleasant, earthy odor, and a consistency like that of lanolin, though more plastic. It is comparatively heavy, and is readily removed from the skin by simple washing with water.—(This terralin must not be confounded with the "Terraline" on this market for a number of years and used internally as a tissue-reconstructive.—Ed.) F.

Thyrogen

If an aqueous extract of the thyroid gland, containing most of the iodine present in this gland, be heated with the addition of hydrochloric acid until coagulation occurs, it will be found, according to Blum (*Pharm. Ztg.*, XLIII, p. 183), that the coagulum will contain all the iodine, not in the form of iodothyron, but still combined with albumin. This compound has been named "Thyrogen C." Like albumins, it is coagulated by heat, on the addition of hydrochloric acid, and forms a non-coagulable compound with formaldehyde, which Blum calls "Thyrogen F." He considers thyrogen to be the source of thyroiodin, the latter, in his opinion, being but a fraction of the thyroidal albumin. F.

Lead Nitrate in Ingrown Nail

According to the experience of a number of physicians (*Sem. méd.*, Vol. XVIII, p. 70), the following is a very effective yet painless treatment for ingrown nail: A thin layer of cotton is inserted by means of a spatula or even toothpick into the space between the nail and the flesh, the layer being sufficiently large to cover the entire nail. Into the furrow thus formed a small piece of cotton rolled between the fingers, into the form of a wick, is placed longitudinally, and this is sprinkled with finely crushed lead nitrate. Over this the extending cotton layer is turned, and the whole covered by a dressing of moistened gauze. This dressing is renewed daily; at the end of three or four days the fungos-

ities will be found to be replaced by a parchment-like tissue, and the imbedded border of the nail becomes visible. The application of the lead nitrate is then suspended, and the edge of the nail is raised by introducing under it a little cotton, the nail thenceforth growing in a normal direction. Should a relapse occur, the same treatment is repeated. F.

Pyrethrum-infusion for Treating Fly Larvæ Developed in the Stomach

Dr. Bachman has observed a case (*Sem. méd.*, Vol. XVIII, p. 70) in which a patient, inclined to alcoholism, who had contracted a habit of eating raw chopped beef, had been attacked by gastric disturbances and diarrhea. In the vomited matter a large number of whitish entozoa were observed, each about 2-5 of an inch long. The author was able to verify them as living fly larvæ. The dejections also contained the larvæ. Male-fern extract having proved useless, the author prescribed the following:

Powdered Pyrethrum . . . 5 grm. (75 grn.)
Boiling Water 180 grm. (6 fl. oz.)

Infuse, strain, and add:

Syrup Bitter-orange . . . 20 grm. (4 fl. dr.)

Dose: Tablespoonful every 2 or 3 hrs.

The immediate effect was to provoke nausea, without vomiting, and several attacks of copious perspiration. The next day the patient passed masses of whitish clots, consisting of the half-digested larvæ. The gastro-intestinal disturbances subsided. The larvæ, it is believed, were ingested with the raw meat, and simply developed in the stomach. F.

Brief Notes

"AMINOFORM" is another name given to hexamethylenetetramine, which is already known under the names "Urotropin" and "Formin," and is used as a solvent of uric acid in gouty conditions.

FENTOZONE is an antiseptic mixture intended for cold in the head, etc. It is said (*Bull. Com.*, XXVI, p. 132) to consist of acetic acid, carbolic acid, menthol, camphor, oil of eucalyptus, oil of verbenia, and oil of lavender.

IODALBACIDE is described by Blum (*Pharm. Ztg.*, Vol. XLIII, p. 183) as a product free from sulphur, obtained by the action of alkalis on synthetic, iodized albumin. It is said to exert analogous but stronger effects than thyroiodin and other preparations of the thyroid gland.

"HYDRARGUENT" is the name given by Borntrager (*Pharm. Ztg.*, XLIII, p. 182) to a preparation by means of which, it is stated, mercury may be incorporated with

fats, to form the official mercurial ointment, within five minutes, an addition of 0.5 per cent. being sufficient for making small quantities, large quantities requiring only 0.25 per cent. to accomplish the same purpose. Detailed information regarding the composition of hydrarguent is not yet to hand. F.

Pyoktanin in the Treatment of Cystitis

Dr. R. E. Graham states (*N. Y. Med. Jour.*, Vol. LXVII, p. 889) that in cystitis a germicide is required whose irritant power should be very slight even in concentrated solution, and whose germicidal and antiseptic power should be marked in very dilute solutions, and one whose action is continuous over quite a period of time. The best article possessing these four requirements, the writer thinks, is pyoktanin, which can be applied to the most delicate mucous membrane, not only in concentrated solution, but in powdered form, with but slight, if any, irritation. As a germicide and antiseptic pyoktanin stands high in the list. It destroys the vitality of anthrax bacilli in solutions of 1 to 1000, and retards the development of pus cocci in solutions of 1 to 2000. Pyoktanin, when applied to an inflamed mucous membrane, stains the same intensely blue; this color remains for a number of days, and, of course, the pyoktanin is active as an antiseptic so long as any color remains.

To substantiate his claims for pyoktanin in the treatment of inflammation of the bladder and urethra, the author gives the clinical history of four cases treated by him, in which injections of pyoktanin-solutions into the bladder produced the happiest results. F.

Diphtheria Treated with Tincture Myrrh

Stroell reports (*Pediatrics*, Vol. V, p. 566) having used a 2-per-cent. solution of tincture of myrrh in eighty cases, with but one death. The formula used by him is as follows:

Tincture Myrrh.....	4 gme.
Glycerin .....	.8 gme.
Distilled Water ..	to make 200 gme.

This mixture should be administered day and night—every hour during the day and every two hours during the night. The dose for children under 2 years of age is one teaspoonful; from 2 to 15 years of age a dessertspoonful; and for adults one tablespoonful. As soon as marked improvement is noted the mixture may be given at longer intervals. When the exudate has totally disappeared the medicine should still be continued every three hours for forty-

eight hours to guard against a relapse. The author claims that the membrane becomes loosened within forty-eight hours, and the fever and feeling of debility usually disappear in twenty-four hours, so that at the second visit the patient is usually found playing in bed. All local treatment may be dispensed with, though it cannot be denied that the diphtheritic process disappears more rapidly from the tonsils if local treatment is at the same time employed. For this reason he recommends a gargle to adults and older children which is to be used every half-hour or hour during the day (during the night it is unnecessary). The gargle consists of two tablespoonfuls of a $\frac{1}{2}$ -per-cent. solution of resorcin. In laryngeal diphtheria the same mixture is used by means of an inhalation apparatus or a hand-spray every hour or half-hour. If the tincture of myrrh is administered for a few days, the urine, on boiling, will present a turbid appearance, which is due to the resins in the myrrh. It can be distinguished from albumin by its solubility on the addition of alcohol. Stroell claims that nearly every case of diphtheria which has not yet spread to the larynx will be cured by the 2-per-cent. solution of tincture of myrrh. F.

Treatment of Carbuncles

Dr. S. N. Rosenbaum (*N. Y. Med. Jour.*, Vol. LXVII, p. 825) recommends the following method for treating carbuncles: Fold a piece of aseptic gauze until it forms a thickness of six to eight layers, the surface area to be somewhat larger than the carbuncle to be covered. The gauze is first thoroughly saturated with Thiersch's solution, then covered with a layer of a 10-per-cent. ointment of ichthyol, and then applied to the carbuncle. A piece of rubber protective large enough to overlap the gauze is now placed on the same to keep in the moisture. A layer of cotton is placed on the protective, and then the bandage is applied and allowed to stay on for two days. When the patient returns to be rebanded and to have the dressings renewed, the cores are found to have separated from their respective walls, and at the next redressing, which is again in two days, they are found entirely separated, and can be easily and painlessly removed. At the next visit granulation has passed the primary stage, and healing quickly results, leaving an almost invisible scar. The only constitutional treatment necessary is to give cathartics, like fluid extract of cascara sagrada or castor-oil, and in individual anemic or cachectic cases, compound syrup of the hypophosphites. With

this simple but very effective treatment the following advantages are claimed: (1) Painlessness (a great factor with many patients); (2) quickness of healing, more so than with other methods; (3) no scar or cicatrix remaining—important when carbuncles are in visible parts. F.

The Use of Aqueous Extract of Suprarenal Glands, Locally, in the Upper Air-Passages

Dr. Henry L. Swain, of New Haven (*Med. Rec.*, Vol. LVII, p. 819), read a paper with this title, of which the following were the conclusions:

1. The aqueous extract of suprarenal glands was a powerful, local, vasoconstrictor agent, and a contractor of erectile tissue, which it was safe to use in very considerable amounts without dangerous or deleterious effects locally or to the general constitution of the individual.

2. These local effects could be reproduced in the same individual, apparently any number of times, without entailing any vicious habit to either the tissue or the individual.

3. The use of the extract seemed rather to heighten the effects which might be expected from any given drug used locally after it.

4. In acute congestions it had its widest application and greatest opportunity for good, but in certain chronic conditions of the hay-fever type, when redundant tissue seemed prone to develop, it could be relied upon as one of the most helpful adjuvants at command. F.

Stypticin

Drs. I. Rousse and Paul Walton report (*Belg. Méd.* Vol. I, No. 20) having carried out a series of physiological experiments with stypticin on animals, the results of which induced them to apply the remedy clinically. They have given the remedy in a great number of various uterine affections, the dose being generally from 0.09 to 0.15 grn. in pill form. They administered it in a variety of cases of endometritis, both before as well as during the menstrual period. On first taking, there appeared to be no effect, but after a while the hemorrhages were notably diminished, and after the cessation of the administration, in three or four months, this symptom was scarcely observable. In the hemorrhages following abortion or childbirth, even large doses of stypticin appeared to lack the rapid action yielded by hydrastinine.

In the hemorrhages connected with the presence of large uterine tumors (myoma fibroma), the loss of blood did not appear

to be greatly diminished, but a marked improvement in the general condition and of the pulse was observed.

In great loss of blood following operations, or other cause, stypticin appears, after several days of employment, to energetically stimulate the action of the heart. The authors sum up the agreements and differences in action between stypticin and hydrastinine as follows: Both, given in sufficient quantities, kill by arresting respiration, both being paralyzers; their action on the respiration and the motor system is of central origin. While paralysis from hydrastinine is preceded by a period of excitation, that from stypticin occurs immediately. Both remedies augment intestinal peristalsis, and produce, or at least increase, uterine contractions. Both augment cardiac activity. Their action on the heart, and their oxytocic power physiologically explain their supposedly identical therapeutic properties. However, their mode of action on the circulatory system differentiates them; while hydrastinine rapidly causes circulatory modifications, at the same time acting on both the heart and the abdominal vessels, stypticin acts only after a long time, and seems to limit its action to the heart. Although the action of hydrastinine is more rapid than that of stypticin, it is, on the other hand, less persistent. In short, hydrastinine exerts a stimulant action on the heart, and stypticin a tonic one. The action of hydrastinine on the heart may be compared to that of ether and camphor, the action of stypticin to that of digitalis. From these effects result the different indications of each of the remedies; every time it is necessary to produce a prompt action, as in serious, acute anemia, in hemorrhages following childbirth, hydrastinine must be prescribed; if, on the other hand, a continuous, sustained action is desired, as in uterine affections accompanied by hemorrhages due to circulatory affections, recourse will preferably be had to stypticin. F.

Salicylic Acid in Pneumonia

De Becker (*Epit. Brit. Med. Jour.*, No. 1952, p. 87) has for the last two years treated pneumonia with salicylic acid. The first case in which he tried it was that of a little girl, aged 4 years, with pneumonia of the left apex and a pneumonic focus at the lower angle of the right scapula. During five days he treated her with digitalis, blisters, etc., but the physical signs did not alter, dyspnea became worse, and weakness increased. He then changed the treatment to 10 ctg. of salicylic acid every hour, and after the first doses the tongue became

clean and a cough developed, which cleared the lung in twenty-four hours. Three days later the patient's elder sister contracted pneumonia, but the attack was cut short in two days by the same treatment. De Becker has since treated in the same manner twelve cases of acute pneumonia, all of which were rapidly cured, except one in which death was due to the sudden onset of meningitis. He explains the effect of the salicylic acid partly by its antiseptic action, partly by its producing dissociation and early liquefaction of the hepatization-products, and by its setting up cough, sometimes accompanied by violent efforts. The expectorated material is liquid, and to the naked eye appears to consist of nothing but blood. The acid, therefore, he thinks, does rapidly what nature often has a great difficulty in doing, taking so long about it, moreover, that the heart fails under the prolonged strain to which it is subjected. As regards dosage, in the case of children 10 ctg. are given every hour, or in the very young every two hours; in adults, 50 ctg. every two or three hours; in the aged, the same amount every three or four hours, regard being had to the state of the heart. The dose must be adjusted to the condition, the guiding symptom being the expectation; as soon as this is free the dose should be diminished. De Becker finds that the acid is best given dissolved in a little hot water, a good quantity of jam or honey being added. Coffee, chocolate, and even diluted milk are also good vehicles. Cardiac disease and extreme weakness are contra-indications. He believes that if salicylic acid is given early (first or second day) it will be found a true abortive of pneumonia.

F.

Orthoform in Gynecology

Orthoform has been used in gynecology by Dr. R. Blondel (*Rev. de Thérap. Méd.-chirurg.*, Vol. LXV, p. 325), who reports having used it in eight cases of uterine dilatation with considerable success, the pains being, in nearly all cases, entirely obviated. The author has also treated fifty cases of endometritis, with complete success and entire painlessness, and without interfering with the ordinary employment of the patients. The cotton wicks which were used as tampons were impregnated with glycerin to which a few grammes of powdered orthoform had been added, and the local analgesic effect lasted for twenty-four hours, until a renewal of the dressing was made, a cure always ensuing in from three to five weeks. Equally good results were also obtained after curetting necessary in fungous metritis. It was found, too, that curetting

could be accomplished without general anesthesia, by applying a dressing of orthoform an hour before the operation, which was rendered quite painless by this means. In the treatment of the urinary tract the results were variable, due, most likely, to the complete insolubility of the orthoform in the alkaline fluids present in it.

Cocaine as an Antidote for Morphine-poisoning

Dr. C. W. Williams reports (*Northwest. Lancet*, Vol. XVIII, p. 192) having used cocaine in a case of morphine-poisoning, with success. He was led to make the trial by the knowledge that opium and cocaine act very largely on the nervous centers, but in opposite directions. Thus, opium retards respiration, cocaine stimulates; opium slows the pulse, cocaine accelerates it; opium checks the secretions, except sweat, cocaine increases them; opium contracts while cocaine dilates the pupils; opium produces sleep, cocaine wakefulness; opium retards peristalsis, cocaine increases it. The same opposing effects are noticed also in their action on the kidneys.

The cocaine was given hypodermically in 1-4 grn. doses, given first with apomorphine and strychnia, and then with small doses of potassium permanganate. The injections were repeated two or three times, and recovery followed by the next day.

Condurango in Gastric Pains

According to Dr. Lemoine (*Sem. méd.*, Vol. XVIII, p. 110) condurango-bark, which has been extolled for the treatment of various gastric affections, and particularly in gastric cancer, exercises a peculiarly calmative effect on gastric pains. For this purpose the writer has, for years, been in the habit of prescribing 0.5 to 0.8 gme. of powdered condurango daily, in pill form. It has also been observed that the pains and vomiting of round gastric ulcer, which had resisted cocaine, rapidly ceased on administering 0.15 gme. four times a day, in pill form.

Ammonium Chloride in Tropical Dysentery

Dr. John W. S. Attygalle reports (*Brit. Med. Jour.*, No. 1949, p. 1197) having treated a great number of cases of acute tropical dysentery at the Police Hospital, Colombo, and also in private practice, with very satisfactory results by the administration of ammonium chloride. The salt was given in dram doses every four hours, and the patient placed on milk and arrowroot diet. In the majority of cases blood was absent from the stools on the third or fourth

day. In two cases, however, it was necessary to resort to other remedies, which consisted in small doses of the extracts of opium and cannabis indica dissolved in about a wineglass of honey and mixed with about a quarter of a fresh bael fruit, which is eaten at a time. The result is a rapid disappearance of blood from the stools. One case, a boy aged 12 years, was given his ordinary diet of rice and plantain curry on the third day after this treatment.

The writer believes that ipecac is useless in the treatment of tropical dysentery, and that opium should never be given in the early stages; its beneficial effects are only seen in the last stages when combined with cannabis indica, and when other drugs have failed.

F.

Sodium Saccharinate as an Intestinal Antiseptic

According to experiments carried out by Dr. Descheemaeker (*Sem. méd.*, Vol. XVIII, p. 86), sodium saccharinate is one of the best of intestinal antiseptics. Administered in doses of 1 gm. once or twice daily, it causes a considerable diminution in the number of intestinal microbes, and particularly those of the coli bacilli. The remedy is very well borne, and never causes albuminuria; nor does it affect the urea-content of the urine in any manner. The sodium saccharinate must be given inclosed in wafers, and care must be taken not to break or crush them while taking, otherwise the intensely sweet taste will persist for a couple of days and be very unpleasant.

F.

Ichthyol-inhalations in Acute Laryngitis

According to Ciegiewicz (*N. Y. Med. Jour.*, Vol. LXXVII, p. 826) inhalations by means of an atomizer of a cold 2-per-cent. solution of ichthyol repeated twice daily, and not too deeply inspired for fear of producing nausea and vomiting, have given excellent results in acute laryngitis. The author has used the treatment both in adults and children, in the latter in cases of false croup. No ill effects have followed.

F.

Physiology of Gentianose

E. Bourquelot (*Pharm. Jour.*, No. 1457, p. 506) infers that gentianose, the specific sugar of gentian, like sucrose in the beet-root, is split up into assimilable sugars in the course of the growth of the plant by special ferments, which are localized in the growing parts of the plant. A solution of gentianose was without action on Fehling's solution, but the same solution, to which a little of the powdered growing parts of

Gentiana acaulis had been added, gave a copious reduction. This species of gentian was used because, at the time of conducting the experiment, the growing parts of Gentiana lutea were not available. It was also found that the soluble ferments of *Aspergillus niger* causes the hydrolysis of gentianose, so does invertin, but less rapidly than saccharose. Emulsion, saliva, and diastase are without action on gentianose.

F.

Formaldehyde in Atrophic Rhinitis

Dr. George L. Richards (*N. Y. Med. Jour.*, Vol. LXVII, p. 826) speaks highly of formaldehyde in atrophic rhinitis. He uses it as follows: After removal, by means of a syringe and cotton applicators, of all the crusts and débris with a weak alkaline solution, each nostril is thoroughly washed out with a solution of formaldehyde, containing five to ten drops of the 40-per-cent. solution to 8 oz. of warm water. As it is very irritating even in dilute solutions, a preliminary spraying of the nose with cocaine is advisable. It produces a temporary sense of smarting in all of the nasal mucous membranes with which it comes in contact. At home he has one drop added to the solution which the patient uses in the douche-cup for the daily cleansing. Under its use the crusts diminish in number and all unpleasant odor ceases.

F.

Orexine in the Vomiting of Pregnancy

Dr. Richard Frommel reports (*Therap.*, Vol. VIII, p. 141) having prescribed orexine in four cases of young pregnant women, whose ages ranged from 20 to 30 years. Two were primiparæ, one was pregnant for the second, and the other for the third time. Two were in the third, one in the fourth, and one in the fifth month of pregnancy. The two who were pregnant for the second and third time, respectively, had during their previous pregnancies vomited the whole time they were "carrying." The one that was pregnant for the third time stated that she had become very emaciated during her previous pregnancies owing to the persistent vomiting.

Orexine was given in doses of 4 1-2 grn. two or three times a day, followed by a little cold fluid, water or milk.

In all four cases the effect of treatment with orexine was very prompt. In two of the cases the vomiting completely stopped after it had been administered for two days; whilst in the other two the vomiting soon decreased, and completely ceased in less than a fortnight. A fifth case was treated in a similar manner; this being a young woman in the sixth month of pregnancy,

who had become very emaciated owing to the continual vomiting which she had been troubled with since the commencement of her pregnancy. In this case the administration of orexine proved equally prompt in relieving hyperemesis.

So far, then, as the experience went, the author feels justified in confidently recommending the use of orexine in cases of ordinary hyperemesis gravidarum. F.

The Treatment of Cardiophtosis

Dr. G. Rummo states (*Sem. méd.*, XVIII, p. 94) that in the treatment of cardiophtosis he has found an epigastric bandage an important aid. As adjuvants in the treatment he employs cardiotonics, such as digitalis, strophanthus, caffeine, theobromine, and quinine in small doses, and also excitants of the nervous system, as arsenic, iron, phosphorus, and strychnine.

Erysipelas Migrans Treated with Ichthyol

Dr. W. Ja. Rosenberg, of St. Petersburg (*Aerzt. Rundsch.*, Vol. VIII., p. 229), reports a severe case of erysipelas migrans, complicated with gangrene of the eyelids and lips, besides nephritis, in which brilliant results were obtained by the application of ichthyol. The remedy was used in the form of an ointment (1:3 or 1:1 with adeps lanæ or vaselin) and a complete cure was obtained, although not for several weeks, on account of the nephritic disturbance. F.

Methyl Chloride in the Vomiting of Pregnancy

Dr. Lefour reports a case (*Sem. méd.*, Feb. 23, 1898) of vomiting in a pregnant woman, which absolutely refused to yield to any kind of treatment. At last he was sent for to empty the uterus. Before doing so he decided to try methyl chloride, with which he energetically sprayed the entire spinal column. The vomiting ceased, and the pregnancy was left undisturbed. R.

Thyroid Extract for Carcinoma

A further use for thyroid extract has recently been suggested. William Bishop and Frederick Page, of Newcastle-on-Tyne, England, have recorded (*Phila. Med. Jour.*, Vol. I, p. 1069) the case of a woman, aged 61, who had her left breast removed for carcinoma. There was no doubt about the diagnosis. Three months after the operation recurrence took place in the neighborhood of the cicatrix. Portions of the recurrent growth were submitted to independent investigators, who reported upon them as carcinomatous. Nine months after the operation, thyroid extract was given the pa-

tient—quite empirically. She improved under it, and the dose, which after a short time reached 15 grn. daily, was administered regularly for eighteen months. She is now quite well. She has gained flesh, is in good general health, and the nodules of new-growth have disappeared. Of course no medical man would dogmatize from one case, but the story should, and probably will, encourage many medical men to make a trial of therapeutic properties of thyroid extract in those cases, which by general consent are held to be incurable. F.

Treatment of Sciatica with Hydrochloric Acid

Dr. Sennatos has treated a large series of cases by painting with hydrochloric acid. The results were excellent. He paints the acid two to four times on the painful spots and envelops the leg in cotton. There is a slight burning and the pains diminish at once (*Jour. de Méd. de Paris*, Vol. XII., No. 19, 1897). If necessary the painting is repeated in 24 or 48 hours. The author has never noticed any deep sloughing. R.

Protargol in Ophthalmology

According to Dr. A. Darrier (*Apoth. Ztg.*, Vol. XIII, p. 413), continued experiments have confirmed the observations made previously, that protargol is entirely without caustic or corrosive action, and that no danger need be apprehended from the use of too concentrated solutions. Instillations of protargol-solutions are scarcely felt, and at the most, only a slight burning is felt a few minutes after application, which is readily borne even by the most sensitive of children. Even the slight pain felt may be entirely neutralized by combining with the remedy an anesthetic. For instillations the author uses a 5-per-cent solution; as a paint, a 20- to 50-per-cent solution is used. Neisser also has called special attention to the very slight irritating effects of protargol, in consequence of which a more prolonged therapeutic effect may be readily obtained by means of it than is possible with other silver salts. The penetrative power seems also to be much greater than with other silver preparations. F.

Formaldehyde in Digestive Troubles

J. N. Hurty (*Treatment*, Vol. II, p. 124) reports the case of a child affected with marked indigestion who was fed on milk containing five drops of 40 per cent. of formaldehyde to the quart. Although two weeks' feeding with Pasteurized milk had previously brought no relief, ten days of the new treatment caused a decided improvement, resulting eventually in a com-

plete cessation of the symptoms. No injurious effects were observed. The same author himself derives great benefit when suffering from "acid indigestion" due to fermentation by living for a time on milk containing ten drops of the antiseptic to every eight ounces of milk. This treatment, adopted at frequent intervals during one and a half years, has so far been perfectly free from objectionable results.

Guaiaicol in Epididymitis

Lenz (*Epit. Brit. Med. Jour.*, No. 1952, p. 88) gives his results from the use of guaiaicol in fifty-two cases of epididymitis, fifty of which were of gonorrheal origin. He uses a 10-per-cent ointment made with petrolatum, or a 5-per-cent. if the skin of the scrotum is tender. The scrotum is first washed with soap and with ether. This ointment is applied during the acute stage, and the author claims that in from three to five days the fever, pain, and swelling disappear.

In subacute stages the action of guaiaicol is less active and very slight in chronic cases. After the acute stage it is best replaced by a 1- or 2-per-cent. ointment of extract of belladonna, with equal parts of simple ointment and diachylon ointment. Salol internally, 15 grn. thrice daily, is a useful adjunct to the treatment. The quick absorption of the guaiaicol is shown by its appearance in the urine in from fifteen to thirty minutes, as shown by the reaction with ferric chloride, while its quick elimination is proved by the fact that none is present in the urine after twenty-four hours. F.

Uterine Hemorrhages Treated with Aluminum Acetate

Dr. Kalenschner (*Munch. med. Woch.*, Vol. XLV, p. 18) says that the conditions for properly tamponing the uterus with iodoform gauze are not always at hand, nor is it necessary, as aluminum acetate is just as effective, while its application is much more easy for the general practitioner. For the last four years the author employed injections of solution of aluminum acetate into the uterine cavity, and no matter to what the hemorrhage was due—to atony of the uterus, to remains of placenta, to an abnormal condition of the blood, etc.—he always succeeded in completely arresting it within a few minutes. The author employs a hard rubber syringe, holding 5 to 8 dr., with a long nozzle, which he introduces within the uterine cavity. He refills the syringe three to five times, and the hemorrhage is invariably stopped. R.

REVIEWS

The Peritoneum. By Byron Robinson, B. S., M. D., Chicago, Ill. Part 1. Histology and Physiology. With 247 illustrations. C. V. Waite & Co., 70 State Street, Chicago. 1897. Price, \$3.75.

The book is a pioneer work, the outcome of experiments on the peritoneum in the study of its anatomy and in microscopical research, covering a period of six years, the subject-matter being so arranged as to facilitate the study and comprehension of its histology and physiology. The views presented are theoretical, practical, and experimental. In the work there has been examined the peritoneum of man, horse, dog, sheep, frog, fish, rabbit, guinea-pig, dove, and numerous other animals, the material being ample to interpret carefully the phenomena of structure and function. The author states as a fact that the peritoneum of the dead animal is absorbent for many hours after death. Also, from close microscopical observation of fetal development, the opinion is expressed that the mesenteries are independent primordial structures and not merely peritoneal duplicatures. An instructive chapter is that given to The Technique: Or Methods of Preparing Specimens of the Peritoneum for Microscopical Examination. In the opening chapter is given a historical sketch, observations being recorded as early as 340 B. C. The illustrations, as a whole, are good, many of them being from drawings of microscopical specimens by the author. A complete index, as well as an extensive bibliography, closes this volume, which is of a high order of merit and which can be unhesitatingly recommended as a marked advance in the study of so delicate and complicated a structure as the peritoneum.

Yellow Fever; Clinical Notes by Just Tonnatre, M. D. (Paris), Former Physician in Chief of the French Society Hospital, New Orleans; Member of Board of Experts, Louisiana State Board of Health. Translated from the French by Charles Chassaingnac, M. D., President New Orleans Polyclinic; editor New Orleans *Medical and Surgical Journal*, etc. New Orleans: New Orleans *Medical and Surgical Journal*, Ltd., 1898. Pp. 206.

Dr. Tonnatre's work could not have chosen a more appropriate time than the present for its publication. So many Northern medical men have gone to Cuba, or are preparing to go there, that will need just such light as this supplies, that it only needs to be well advertised among them to make it sell. The author in his introduction says of it: "At my age, on the eve of my return to France after thirty-three years of the practice of medicine in New Orleans, I seek *ni honor ni argentum*. My only desire is, if possible, to leave to this country, which has been so hospitable to me, a useful book as a token of gratitude." Whatever his aim or intent, he has done well in presenting so thoroughly practical a treatise on so badly understood a subject. If for nothing else, the volume deserves much praise for its attack on the prevalent pessimism regarding the treatment of yellow-fever patients. The very hope he here encourages will itself prove a life-saver and a blessing to the discouraged practitioner. He says "good treatment yields excellent results, and the physician is just as well armed for battle against yellow fever as against any other disease." The book is divided into eight chapters, the first deal-

ing with general observations ; the second, symptomatology ; the third, pulse-rate. Faget's law, charts, and types and variations of yellow fever ; the fourth, yellow fever in children ; the fifth, diagnosis ; the sixth, prognosis ; and the seventh, treatment. Dr. Chassaignac translated the volume from Dr. Touatre's manuscript, and not from any French edition of the work.

Atlas and Abstracts of the Diseases of the Larynx. By Dr. L. Grunwald of Munich. Authorized Translation from the German. Edited by Charles P. Grayson, M. D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania, Physician in Charge of the Throat and Nose Department, Hospital of the University of Pennsylvania. With 107 Colored Figures and 44 Plates. Philadelphia: W. B. Saunders, 925 Walnut Street, 1898. \$2.50 net.

As a text-book for beginners in the study of Diseases of the Larynx we know of no better work than this. As a work for busy general practitioners who wish to be able to recognize the various diseases of the larynx at sight without having to go to the trouble of visiting some great city and at enormous expense remaining there for months to attend clinics it is indispensable. The pictures are all sufficiently exact in form and color to make an excellent substitute for the real objects themselves and will readily enable a careful observer to diagnose similar cases when they come to him in his practice. Considering the work put upon the numerous plates the price is remarkably low. Quite a number of the plates give microscopic views of altered epithelium, sarcoma, carcinoma, cysts, angioma, diseased blood-vessels, syphilitic tumors and the like. A volume of such evident usefulness should command a large sale.

Accident and Injury ; Their Relations to Diseases of the Nervous System. By Pearce Bailey, A.M., M.D., Attending Physician to the Department of Correction and to the Almshouse and Incurable Hospitals, New York City. New York: D. Appleton & Co. 1898.

Dr. Bailey has in this volume supplied the medico-legal expert in diseases due to injury a volume of great worth. It is probably the only volume in existence that he can consult with any hope of finding definite information concerning diseases of the nervous system due to injury and fright. Such diseases are incessant sources of litigation and have done much toward bringing the medical expert into disrepute. They lie at the gateway that divides the imaginary from the real, and it is no wonder that they are a constant source of controversy between medical men when pitted against each other in court. The views and deductions of the author are not only of value to the expert, but they contain much that every practitioner of medicine should know. He considers first the histories and examinations of such cases ; second, the organic effects of injury to the nervous system ; third, the functional effects of injury ; fourth, malingering, and fifth, the treatment of the traumatic neuroses. There are fifty-five well-executed illustrations, the paper and typography are excellent, and the binding is first-class. The volume, exclusive of index, contains 418 pages.

The *Medical Press* says that according to a German authority 2,000,000 glass eyes are made every year in Germany and Switzerland, while one French firm manufactures 300,000 of them annually. The wonder, however, is who uses them. Perhaps they are only intended for the counterfeit presentments of humanity, such as children delight to play with.

CORRESPONDENCE

Dr. Lowry's Examination Papers

To the Editor of the A. M.-S. BULLETIN:

I received a marked copy of your journal of April 25th, containing on page 348 a statement in regard to the examination of Dr. Lowry. I desire to state that the whole matter is false in toto in regard to the questions propounded to Dr. L. No such questions were ever given out by the Tennessee State Medical Examining Board. I enclose you the printed list of questions for Dr. L.'s examination (the Anatomy and Surgery being the only ones attempted by Dr. L.), and ask that you correct the statement.

Yours, etc.,

T. J. HAPPEL, M.D.,

Trenton, Tenn., June 24, 1898. Secretary.

[The article referred to by Dr. H. is a copied editorial from the *Medical Standard* of, we believe, the month of March. The BULLETIN placed it in its department of "Among the Editors," giving full credit to the *Standard*, knowing it to be a reputable, first-class, medical journal. We refer the doctor to the editor of that journal as the proper person for him to turn his vials of wrath upon and not us. The *Standard* should certainly make a retraction in this case, as the questions put were wholly unlike those it published, and which we reproduced on its evidence.—EDITOR.]

Apomorphine

To the Editor of the A. M.-S. BULLETIN:

Prescribing apomorphine for cough has been an almost routine practice with me for eight years. I have frequently had results quite as remarkable as those of Prof. Babcock in the case of his doctor friend. One grateful patient asked why I did not "have the remedy patented and make a fortune out of it." I have myself taken two grains at a dose without the slightest unpleasant effect. I think it should be prescribed in doses of from $\frac{1}{4}$ to 1 grain every three or four hours, although I have had good results from $\frac{1}{16}$ of a grain every three hours. I have come to regard apomorphine as a valuable remedy for the cough of bronchitis, acute or chronic. I would suggest slow absorption and rapid elimination as a probable explanation of the difference in action between its hypodermic and oral administration. When Dr. Babcock's patient was taking two and one-half grains four times daily, he only came to grief when he took a dose when the stomach was empty, and, of course, in the most favorable condition for absorption. We get the same results if we give curara by the mouth. Its poisonous action does not appear if the renal arteries are first ligated, the animal is poisoned as certainly as if the drug had been given hypodermically, only more slowly.

Yours,

WM. J. BAIRD, M.D.

Boulder, Colo., June 18, 1898.

The Jefferson Medical College, of Philadelphia, is soon to have a new building, which will be located at the northwest corner of Tenth and Walnut Streets.

At the annual convention recently held in New Haven the Connecticut Medical Society passed a resolution that members of the Society should be prohibited from selling their services in advance by contract to lodges, beneficiary orders, public almshouses, or wealthy corporations.

American Medico-Surgical Bulletin

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Issued on the 10th and 25th of the Month

HORATIO C. WOOD, M.D., LL.D., Editor
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EDITOR'S NOTES

The American Medical Association missed a grand opportunity to display its loyalty and patriotism when it failed to re-elect Surgeon-General Sternberg as his own successor. Through no fault of his own he lost the opportunity of enjoying the great honor the Philadelphia meeting had conferred upon him. The Spanish war should not have been permitted to play Tantalus with him as it did. It certainly would not if there had been a sufficient appreciation of all he has done for America and American medical men. Dr. Mathews would have been as willing to wait another year for promotion as he was to declare the motion out of order that aimed at his serving as actual president at the Denver meeting.

Among the Section chairmen at the Denver meeting it would have been impossible to find one who outranked Dr. Shoemaker in grace, tact, persistent adherence to duty, and pleasing manner. In his section, too, were some of the very best papers read this year. It was a pity that lack of time compelled the passing of some of those from authorities of world-wide fame by mere reading of titles because their authors happened to be absent. It is all right to have a rule enabling a chairman to dispose easily and quickly of the papers of absentees, but

such a rule should not be so inflexible that it could not make an exception of those from men like Lauder Brunton, Klebs, Welch, and Prescott. What they have to say on subjects in which they are particularly interested is just what the most intelligent members attend the meetings to hear.

The American Red Cross Society, under the supervision of Miss Clara Barton is seeking to repeat in the present war what it has done so often in preceding wars and other calamities. Its record is one to be proud of, and the people who are backing it are among the very best in America. It is therefore surprising to find that in some quarters there is a determined effort being made to interfere with its operations, if not to belittle its accomplishments. It is hard to discover any other motive than that of jealousy for this covert method of attack by implication. Nothing tangible has yet been brought against any of its work, but it has been pronounced unnecessary and meddling. Until someone shows that it is doing as much harm as good, and is therefore useless, it is cruel and mean to cast the slightest breath of suspicion upon a philanthropy so grand with a past record so magnificent. No doubt its officers make mistakes. Where can we find mortals who do not? No doubt some of its work might be done as well, or better, through regular army channels, but is this any reason for attempting to check the promptings of the highest human characteristics in civilian hearts? The wounded, suffering soldier will get none too much care even though looked after by the medical attachés of his corps and the kind nurses of the Red Cross Society. We hear no such opposition made to the presence of Sisters of Charity and their benevolent attentions. Why then should the cry go forth against other women acting as nurses because they do so under the badge of the red cross? Let us have facts, if there are any against them, otherwise such innuendoes should cease and their work be encouraged in the most whole-souled manner possible.

Is it right for the community to expect physicians to treat every poor sick person free of charge? Is it fair for it to place this burden upon medical men? Of course the poor should have medical attendance if they are not able to pay for it. But whose duty is it to provide this attendance? When a poor man appears in a criminal court he is not expected to try his own case. Does the community expect the lawyers to be charitable enough to look after him without

pay? Certainly not. The judge orders some one to act as counsel for him and the community pays for the service. Would it not be much more just if the community instead of expecting doctors to relieve it would manfully assume this duty itself? What objection can any one introduce against paying the doctor for charity work out of the taxes and thus equalizing the burden in an honorable and upright manner? Is it expected of the baker to supply every hungry person that comes along with a loaf? Why is it considered odious for a doctor to refuse free service, and all right for all other classes of the community to do the same? Is not this state of affairs evidence of a low appreciation of genuine morality by the community? Is it not positively immoral? Why do not medical men assert their rights in this by seeking legislation for the sick poor? Every humane doctor should keep on attending to the indigent poor, as it would be an act of savagery to refuse attendance to the really worthy poor, but they should unite in a movement to have the present injustice righted. It would be an easy matter to get rid of dead beats if we were always sure that we were not treating a worthy person cruelly by turning them off because they do not pay. The community in its injustice to the doctor is therefore at the bottom of the further wrong done by the dead beat.

One of the promising signs of the times is the starting of physicians' protective associations in various parts of the country. The number of people who make a habit of forcing doctors to give their services free of charge seems to be increasing; in large cities this class is especially numerous. They will call in a doctor even for slight ailments and at all hours without the slightest intention of paying him, although abundantly able to do so. As long as he is willing to serve them without insisting upon his pay they will keep calling him, but as soon as he begins to ask compensation for his services they will go to another doctor and repeat the same game. In this way a large number of people get their medical services for years and pay nothing for it. Others start out by paying their bills when only one or two calls need to be made, but after the rendering of a bill for attendance on some member of the family who has recovered from a serious lingering ailment, they are never seen again. If they were people of property they could be compelled to pay, but when they are well-to-do mechanics nothing can be done except to let them go. Usually they become a menace to one's success in the region where they

live. Neighbors who know who their doctor was wonder why they have deserted him, and when the debtor is asked he never is willing to make the debt his excuse. Invariably they begin to denounce the doctor as "no good" and his treatment as quackery. In this way many a promising young practitioner has had his chances ruined in a region and been compelled to go elsewhere and start over again. All people of this character should be blacklisted by physicians and be compelled to pay cash down for every visit. For the physician to let them impose upon him is to damage society. Imposition of this kind grows on a community and undermines the morals faster than almost every other morally destructive agent. It is a crime to permit it to continue.

According to Dr. C. M. Wade, of Hot Springs, Ark., the Afro-American medical man's lot is not a happy one. In his response to an address of welcome to the Arkansas State Colored Medical Association, lately convened at Little Rock, he deplored the conditions that made necessary the existence of a colored medical society. Still he thought it would finally end in good in that it would force colored people more closely together as a measure of defence. He said: "While we are the losers by being shut out from the sacred conclaves, we can console ourselves in some measure by knowing that they miss a glorious opportunity of learning medicine by not fraternizing with us, at least medicine as applied to the negro. For I believe that a negro doctor can teach a white doctor how to treat negro patients." In enumerating the troubles of a colored doctor he mentioned the fact that when a patient dies the universal comment is that "the negro doctor killed him." The superstitions of the race are a sad setback to all attempts toward practicing scientific medicine. He had treated cases of sciatica in which the subjective symptoms were described as the internal wanderings of lizards, grasshoppers, or snakes. Whenever a negro doctor is called it is "generally with a white doctor in the background." If a white doctor fails to agree with the colored one in the line of practice it is always a case of malpractice for the latter. If the white doctor's patient dies his time had come, or if he had had a colored doctor first the comment is sure to be, "He ought to have had a white doctor first." When the colored doctor's patients are doing well some one advises "Uncle John's Roots" or some patent medicine. In closing Dr. Wade pronounced the successful negro doctor as "a human anomaly, a thing of wonder, a

substantial evidence of the claim of the race to the equality of all races." We have no doubt that multitudes of white doctors could have matched all his stories of woe with others equally harassing coming from the ignorance and superstitions of whites. We think it is better for science and better for the races themselves that they cling to their own, but all race rancor should be buried as unworthy of intelligent human beings. The proverb that "birds of a feather flock together" is of deep significance, and echoes one of the fundamental facts of the universe. To attempt to ignore it can only lead to disaster. The very fact of having doctors' societies that do not admit shoemakers or tailors is an expression of the same law which it would be as senseless to combat as any attempt to get white men into colored medical societies or the reverse. This should not hinder each from treating the other as gentlemen or scholars where worthy of such distinction.

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THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set, one hundred and sixty pictures, for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C., M. & St. P. Ry., Chicago, Ill.

"THE SHIP'S DOCTOR."

Numerous as are the current chronicles of sea warfare, there has been one void in the record of heroic deeds. Deep down in the bowels of the ship there is hidden in times of battle a phase of sea-life of which the world knows nothing, which has not been written of, and which artists have rarely seen or imagined. Few, indeed, are the phases of human life which have not been dissected by the literary anatomist, nor fixed in vivid horror upon the canvas of the artist; and the beautiful brochure, entitled "The Ship's Doctor," which is being issued to physicians by the Arlington Chemical Co., of Yonkers, N. Y., is of unique interest.

The beauty of this booklet, its professional in-

terest and its timeliness, are certain to make a lively call for it, and physicians who have not received a copy should at once send for it, as the edition is limited and will be issued in the order as requests are received. The more important pictures are admirable subjects for framing, and if there are received a number of requests sufficient to warrant the great expense, a series of plates in large size, with liberal margins suitable for framing, will be made and supplied free to physicians. Physicians who would like to have them for framing should make their requests to The Arlington Chemical Co., of Yonkers, N. Y., makers of Liquid Peptonoids, without loss of time.

NEWS

Some homeopathic doctors of Philadelphia, Pa., are organizing a school for the study of hypnotism as a therapeutic remedy.

The San Francisco Board of Health with the approval of Mayor Phelan has concluded to make cremation compulsory in all cases of death from diphtheria within the limits of that city.

Dr. Alonzo Garcelon, of Lewiston, Maine, although 85 years of age, went to Denver, to close up his sixtieth year of medical practice. Thinking he had not seen enough of the Rocky Mountains he went on to Salt Lake and thence returned home. He was once Governor of his native State of Maine.

Surgeon-General Sternberg lately had a narrow escape from drowning in Hillsborough Bay. His horse stumbled and fell while he was riding along the shore, and as his feet caught in the stirrups, he would probably have been drowned but for the prompt assistance of Private Bronk, of the New York Volunteers.

According to the New York *Evening Post* an English physician, Dr. Solly, said in a recent lecture that an analysis he had made of 7795 cases of pulmonary tuberculosis showed that of those remaining at home, in England, 25 per cent. were cured; of those who went to reside in the islands of the sea, the percentage of recoveries was 52; of those who went to the coast or the lowlands it was 55, while of those who took up their abode in high altitudes 75 per cent. were cured.

Fredonia, N. Y., is in the throes of a small-pox scare. The Dunkirk people will not permit a free exodus from Fredonia to their burg. The electric cars from Fredonia are permitted to run through the city to carry mail and express but must not stop to let off passengers. Brocton, another neighboring town, has taken the alarm and guards armed with shot-guns and pistols have been placed on the roads leading thereto to keep out refugees from Fredonia. Over 300 Broctonites were vaccinated in a single day.

The Twenty-seventh annual meeting of the Des Moines Valley Medical Association met at Ottumwa, Iowa, on June 23d. Over one hundred members were present. Prof. Etheridge, of Rush Medical College, of Chicago, read a paper on the "Treatment of Uterine Cancer by Carbide of Calcium" that was well received. A number of other able and interesting papers were read by members, and to add to the value and novelty of the meeting, one session was devoted to clinical work, the chair appointing those who should assist.

The *Philadelphia Medical Journal* says that according to a law just promulgated in Russia women physicians may occupy all official positions on terms of perfect equality with men. This has ref-

erence not only to their selection for the positions and the identity of salary, but it also and especially refers to the official pension that accrues after a certain number of years of service. Women are hereafter to be pensioned exactly as men, and these pensions descend from a mother to her children exactly as they have hitherto from a father to his children.

The Minnesota State Medical Society held its thirtieth annual meeting at St. Paul on June 16th and 17th. Dr. F. A. Dunsmoor, of Minneapolis, was elected president, and Dr. William Davis, of St. Paul, as secretary. Dr. Mary S. Whetstone, of Minneapolis, was elected as one of the vice-presidents. It was unanimously decided to remit the dues of all members serving in the volunteer army, and all doctors that had been members of the Association for twenty-five years were placed on the roll of honor, but remaining active members without the payment of dues. A number of good papers were read.

The New York *Tribune* says that a bill has been passed by the House of Representatives to increase Dr. Mary Walker's pension from \$12 to \$20 per month. This was done in consideration of her advanced age and the valuable service she rendered during the last war, when she was not only a nurse, but a skilled surgeon. She went upon the battlefields and into the hospitals where her efficient work called forth thanks from President Lincoln. Now that she is no longer able to practice her profession, it was deemed proper to insure her reasonable support for the remainder of her life.

M. V. Bahes and M. Riegler, as reported in *La Semaine Médicale*, April 6, 1898, p. 147, presented to the session of the Academy of Sciences of Paris March 28, 1898, an account of experiments which they had been conducting for two months with the hypodermic injection of an emulsion of nerve-matter of the bulb and spinal marrow of healthy sheep into dogs to make them immune against hydrophobia. The control-animals experimented on, died with hydrophobia in from 12 to 15 days, whereas the immunized animals either resisted altogether or held out against the infection a much longer time.

The Sixty-sixth annual meeting of the British Medical Association will be held in Edinburgh, Scotland, from July 26th to 29th inclusive. Dr. Fraser, of Edinburgh University will deliver the address on Medicine, Dr. Annandale, of the Edinburgh Royal Infirmary, that on Surgery, and Sir Batty Tuke, of the School of Medicine of the Royal College of Edinburgh, that on Psychological Medicine. The scientific work will be distributed among sixteen sections. The president elect of the Association is Sir Thomas Grainger Stewart, M. D., LL. D., F. R. S. C., Professor of the Practice of Medicine in the University of Edinburgh, and physician in ordinary to the Queen.

Dr. Thomas J. Hillis, of New York City, according to a late issue of the *New York Sun*, defended the midwife at a meeting of the County Medical Association. He described the midwife as a grand old figure who has lived through the ages. "Abolish her," he said, "and who will take her place? Why, the women doctors who are creeping slowly and surely into the medical profession. Men are better adapted to be doctors than women. The sentiment of the public, and especially the women, is overwhelming against the female doctor. The sentiment is wide-spread and the women say 'we want none of her' A woman is suited to be a nurse, but when she steps higher she is a failure. The mortality resulting from midwifery exists largely in the imagination of the alarmists. To do away with the midwife is to flood the country

with female physicians. She may have done some harm, but not a tithe as much as the alarmists say, or as much as the young doctors."

The College of Physicians of Philadelphia announces through its Committee that the sum of five hundred dollars will be awarded to the author of the best essay in competition for the Nathan Lewis Hatfield Prize. Subject: "A Pathological and Clinical Study of the Thymus-gland and its Relations." Essays must be submitted on or before January 1, 1900; must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device and containing the name and address of the author. The Committee will return unsuccessful essays. The treatment of the subject must embody original observations or researches or original deductions. The competition is open to members of the medical profession and men of science in the United States.

The registration at the Denver meeting of the American Medical Association reached the unprecedented number of 1600. The entertainment committees did themselves proud in the way they provided for the pleasure of delegates and their families. The side-trips to Silver Plume, Colorado Springs, Manitou and the Garden of the Gods, were all enjoyed immensely by the great multitudes that went. The following officers were selected for the ensuing year: President, Joseph McDowell Mathews, of Louisville, Ky.; First Vice-president, W. W. Keen, of Philadelphia, Pa.; Second Vice-president, J. W. Graham, of Denver, Col.; Third Vice-president, H. A. West, of Galveston, Texas; Fourth Vice-president, J. B. Minney, of Topeka, Kan.; Secretary, William B. Atkison, of Philadelphia, Pa.; Treasurer, Henry P. Newman, of Chicago, Ill.; Members of the Board of Trustees—Alonzo Garcelon, of Maine, I. N. Love, of St. Louis, Mo., H. L. E. Johnson, of Washington, D. C. Next place of meeting, Columbus, O.

A daily paper quotes the following report of the results of Dr. Haffkine's serum treatment of plague in India: "At the small town of Lower Damaun, a Parsee gentleman, Shet Sorabjee Damaunwalla, exerted himself to have the plan put in operation. There were altogether 306 Parsees in Lower Damaun, including males, females, and children. Of these 276 were inoculated twice, and one once. Among the 277 inoculated Parsees eight cases of plague occurred, one of which, in a woman who was afterwards discovered to have been previously infected, terminated fatally. The other seven persons were attacked, respectively, three days, one week, twelve days, one month, and five weeks after inoculation, but they all recovered. Among the twenty-nine uninoculated Parsees four persons were attacked and they all died. Among the former, therefore, the mortality was 0.36 per cent., and among the latter it was 13.8 per cent., or thirty-eight times more than among the inoculated. A similar instance, in a limited number of people, was furnished by the servants belonging to Shet Sorabjee's house and to his garden. There were fifty servants in his house and about one hundred and fifty in his garden, half a mile distant. Round the garden the epidemic was raging violently. Of the whole number of servants all but one were inoculated twice, and the uninoculated person was attacked and died. Among the whole number of the inoculated there was also one death, a child of four years of age. Other statistics are given which seem to indicate that the inoculation as performed at present is more efficacious in preventing death than in preventing infection."

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No. 14

EDITORIAL

THE COMMERCIAL NON-OFFICIAL PREPARATIONS OF DIGITALIS

THE subject of the therapeutic activity and value of the different non-official preparations of digitalis is one of great difficulty, and at present of doubt. In these paragraphs we propose to consider only the commercial products or educts of digitalis which are for sale in the market.

There are in commerce two digitalins, mixtures of active principles.

One of them known as *Digitalinum Gallicum* or *French Digitalin* is official in the French and Belgian Pharmacopœias. It is a yellowish powder almost insoluble in water (2000 parts), but readily soluble in chloroform; it is alleged to consist largely of a glucoside allied to digitoxin. The lack of solubility of this preparation in water indicates very strongly that it does not represent the activity of digitalis. According to information received from Merck & Co. the average yield of this digitalin by the crude drug is 1.3 per cent. The dose of the commercial article is put down at 0.00025 gme., rapidly increased to 0.0015 gme. per day; the maximum daily dose being 0.002 gme. The granules of Homolle, which are commonly used in Europe, each contain a milligramme, or about the seventieth of a grain; which is about

equivalent, on the basis of the yield as given above, to one and a quarter grains of digitalis. One of these globules may be given as a commencing dose. Forty of them taken with a view to suicide, though followed by copious vomiting, produced the most alarming prostration, with pulse weak, 46 to 48 in a minute, intermittent, and sometimes scarcely perceptible. The patient, however, ultimately recovered.

Digitalinum Germanicum is a yellowish-white powder soluble in water and alcohol, but almost insoluble in chloroform. It is believed to be a mixture of digitaleïn, crystallized digitalin, digitonin and digitalin of Kiliani. Of all the commercial non-official preparations of digitalis this probably most nearly represents the therapeutic activity of the drug, and may be used either by the mouth or hypodermically; the dose as given in Merck's 1896 Index is 0.001 gme. to 0.002 gme., repeated two or three times a day, increased if necessary; the maximum dose being 0.004 gme. or the daily dose 0.02 gme. It is contended by Dr. Henry Beates that these doses are absolutely inadequate, and he asserts as the result of much clinical experience that the proper adult dose of the pure German digitalin as furnished by Merck is 1-10 of a grain, whilst the maximum dose is 1-2 a grain; also, that these doses will be followed by definite and positive results and are entirely safe and free from unpleasant effects,

except that occasionally the larger doses (1-3 to 1-2 a grain) will cause some gastric disturbance, which is readily overcome by the use of bismuth and other proper remedies. He narrates cases in which four consecutive half-grain doses, administered at intervals of two hours, brought great relief. We are informed by Merck and Co. that in the manufacture of German digitalin the average yield is from four to five per cent. Supposing for the moment that German digitalin entirely represents digitalis, it must be from twenty to twenty-five times as strong as the crude drug, so that the half-grain dose of it would be equivalent to from ten to twelve grains of digitalis, and the one-tenth of a grain of it would stand for two grains of digitalis. As a teaspoonful of the tincture of digitalis represents about eight grains of the drug it will be seen that the half-grain of German digitalin is about equivalent to seventy minims of the tincture of digitalis, a dose which is of course very large, but may be occasionally used with great advantage to the patient. It is plain, on the other hand, that the one-one-hundredth of a grain of German digitalin is an absurdly small dose, representing not more than one-fifth of a grain of digitalis.

The statements in regard to the therapeutic activity of the various commercial products claiming to be *pure active* principles of digitalis vary so much that if the practitioner use these substances at all, their employment should be looked upon as largely experimental.

Digitalinum crystallisatum, or *digitin*, is commonly affirmed to be physiologically inactive.

Digitonin is asserted by authorities to be similar in its physiological action to saponin, which has on the other hand apparently been demonstrated to be the physiological antagonist of digitalis. It is evident, there-

fore, that digitonin, so far as our present knowledge is concerned, cannot be used as the representative of digitalis.

Of *digitalein*, it is asserted that when given in doses of 0.001 to 0.002 gme., from two to four times a day, it acts as a heart-tonic and diuretic similarly to digitalis. According to Merck & Co., the average yield of it is one per cent., which would make its dose equivalent to one grain of digitalis. The one-hundredth of a grain of *digitalein*, however, represents at best such a small fraction of the activities of digitalis that a much larger dose would seem to be required. In this case the dose given by authorities evidently is much below that which by calculation would seem to be safe. It is not probable, however, that *digitalein* nearly represents digitalis, and it does not seem to us at all proper to use it save only as a matter of study, experimentation, and research.

Of all these active principles *crystallized digitoxin* is probably the most influential for good. Wenzel affirms that it acts more quickly and favorably in cardiac disease than does the infusion of digitalis; a conclusion which is practically confirmed by Potain and also by Pottiez, Starck, Masius, Corin, and others; whilst Kiliani (*Arch. d. Pharm.*, 1892-1896) alleges that it is the only important constituent of digitalis, a conclusion, however, which seems to be gainsaid by the fact that digitoxin is insoluble in water, and therefore cannot exist in the infusion of digitalis unless it is made soluble by the presence in the digitalis-leaf of some unknown solvent. It is also worthy of remark that whilst it is claimed that digitoxin is the most active therapeutically of the digitalis preparations and a complete substitute for digitalis, it is also asserted that the Germanic digitalin, although believed to be the best of the non-official representatives of the drug, does not contain digitoxin. The dose of crystallized

digitoxin is 0.00025 gme., three or four times a day.

The action of digitoxin appears to be very slow under any circumstances. Pottiez prefers exhibiting it by enemata, stating that in this way the vomiting which it often produces when ingested might be avoided. Wenzel also prefers administration by the rectum, using 15 grammes of the following solution: Digitoxin, 0.01 gme.; alcohol, 10 gme.; aq. dest. ad. 200 gme., in 100 gme. of lukewarm water, at first thrice, then twice, and lastly, once daily. The single dose thus given was 0.00075 gme. digitoxin. Only in two cases was an unpleasant result noted, namely—vomiting, and this soon ceased. Merck and Co. inform us that the average yield of crystallized digitoxin is about four-tenths of one per cent.; supposing that digitoxin were the only active principle in digitalis the dose of digitoxin equivalent to digitalis would be from four to five thousandths of a grain (0.00022 to 0.00028 gme.), which is practically the dose of digitoxin given in the books. As, however, it would seem very positive that digitoxin is not the only active principle of the digitalis the equivalent dose should be larger than that named, supposing that no appreciable portion of the drug in question is lost by Merck and Co. in the process of extraction.

When there is no haste digitoxin may be given in granules. It is stated that under any circumstances its action is developed with extreme slowness, and it seems possible that it may be reprecipitated in the body from its solution and accumulate in mass, to be subsequently absorbed and possibly produce unexpected effects; indeed the fact naturally suggests itself that in some such way the cumulative action of the official preparations of digitalis may be accounted for. Corin affirms (*Les Nouveaux Remèdes*, 1895) that the addition of water or physio-

logical fluid or serum, whilst it will precipitate alcoholic solutions of twenty per cent. strength of digitoxin, which have been used by some authors, will not affect a solution made in accordance with the following formula:

Digitoxin	gr. $\frac{2}{4}$ to $\frac{3}{4}$
Chloroform	℥ x
Alcohol at 90°	f 3 iii
Aqua dest., q. s. ad.	f 3 v

Sig. To be taken in three doses.

THE DOCTRINE OF SIGNATURES

THE *British Medical Journal* of July 2 contains a humorous and interesting editorial on "Homeopathy and the Doctrine of Signatures" that is a vivid reminder of the rapid strides that have been made in medical matters within a few generations. This old doctrine is certainly dead beyond the slightest possibility of resurrection, and the attempt of any one in this century to rehabilitate it, is only significant as an indication of the affinity of thought existing between the system of that one and the ancient believers in it. When Dr. John Clarke, in the British Homeopathic Convention, lately held in London, read his paper on the "Doctrine of Signatures and the Law of Similars," he emphasized the fact that his system and that of Paracelsus are but links in a common chain. He said, "It would almost seem that it is to be the lot of homeopathy to rehabilitate the ancient doctrine of signatures developed and glorified by Paracelsus, and possibly utilized by Hahnemann himself and the older homeopaths for suggestions as to the properties and clinical observations."

Dr. Clarke need not have said that it *almost seems* that it is the lot of homeopathy to rehabilitate the ancient doctrine. It is in fact its lot to do so. The two doctrines are but different aspects of the same thing, showing two stages of one thought. The doctrine of signatures was a doctrine

of similars. Hahnemann saw that experience was killing the doctrine of signatures in spite of the fact that it was logically true to the thought of that age and the thought which he no doubt believed to be true. The uncultured of our own day only need to become logical when they would have to say with Paracelsus that to doubt the value of signatures would make God a liar. It is a necessity of the logic of special creation and divine goodness. The modern doctrine of the reign of law in all physical things that makes no pretense at an ability to say what is and what is not good in the absolute, demolishes at one fell swoop this whole superstructure of reasoning. We now take the story nature herself tells as the expression of the divine. Instead of trying to interpret nature by a theory of creation we try to discover the divine plan directly from the facts placed before our eyes. We have completely reversed the old method of dealing with nature, and owing to this reversal we have discovered how silly the doctrine of signatures really was. This reversal of view is quite modern and marks the fundamental difference between the new scientific school of medicine and the schools of sectarians. To us theories must all give way to facts. To those who pursue the ancient way of reasoning, facts must all give way to theory.

Paracelsus had a theory that God had created things for man and that He had along with disease created remedies for every form of disease. Unlike Hahnemann he looked outside of the body for the indications for their use. He firmly believed that similars cure similars. He looked for the similarity in the remedy itself or its source instead of among symptoms. He held that God "maketh medicines out of the earth and marketh them so that we may recognize their uses." As the blood is red

he looked outside of the body for something similar to the blood in color as a remedy in diseases of the blood. As the bile is yellow he sought for similars to this yellowness to treat all affections of the liver.

As an illustration of the methods of reasoning of those times we take from the editorial referred to, a quotation from an ancient writer regarding the similars in tobacco and their significance: "In the first place, the manner in which the flowers adhere to the head of the plant indicates the *infundibulum cerebri* and *pituitary gland*; in the next place the three membranes of which its leaves are composed announce their value to the stomach, which has three membranes." It will be observed by the reader that in every case the ancient believer in signatures held this belief as a law of nature that he could express in no other terms than those chosen by Hahnemann for homeopathy. It is similar curing similar every time. Hahnemann therefore merely enunciated a modification of the sense in which God had made His signatures. Instead of finding the signatures in the outer world he found them in the symptoms of the diseases themselves. It was a mere shifting of the application and in no sense a discovery. Finding the old application untenable and with the pertinacity of acquired bias, he still believed that it was profanity to doubt the ancient doctrine. God, he thought, would not be so unjust as to leave His creatures without a sign to guide them toward means of cure. Judging from the facts before us and from our knowledge of the spirit that actuated the thought of that time it seems quite certain that the genesis of homeopathy was from the inspiration of just such theology as Paracelsus entertained. In other words it was born of a theological conception and not a scientific one. It is now and has ever been a bed of Procrustes to which its disciples compel every fact to fit. There

can be but little doubt there are facts that do match its narrow confines. These, of course, its adherents are bound to make all they can of, but all facts that do not match are tortured and cut up until they do.

Dr. Clarke has shown us that even to this day the homeopathic findings have not been able to shake that school free from the trammels of the older system. He says that "a teacher of materia medica would find it of no little assistance to point out to his class the yellowness of hydrastis, the 'golden-seal' with its 'turmeric-root,' the yellow flower of calendula, the yellow juice of chelidonium, the yellow stain of nitric acid, and the yellow color of chrome of sulphur, of picrate of iron (to mention only a few), as evident in medicines which powerfully affect the liver."

It does not occur to him that perhaps all this evidence he gives is proof that the personal equation has been so great for these many years that no homeopath has been able to correct a serious blunder in therapeutics. What evidence have we that any of these substances affect the liver any more than they do the pancreas, the spleen, or the bladder? No doubt homeopathic facts match with each other through and through. It is but natural that this should be the case after years of adjustment. This complete harmony within itself explains homeopathy's hold upon its friends. Every system, however false, has held its disciples by this chain. The day has passed, however, when intelligent men are going to be long held by any a priori system of medicine. The spirit of the age demands the gathering of facts first, and the discovering of laws last. This is an age of induction rather than one of deduction from theological data. The trends of thought are all away from the conceptions that obtained when homeopathy was born. Law means something different now from what it did then.

AMONG THE EDITORS

UNFIT FOR MILITARY SERVICE

Since the closing days of the month of April the energies of a large number of medical men have been devoted to weeding out from the candidates for military glory, those who from any cause seemed likely to break down under the exigencies of an active campaign. The responsibility for much of the delay which has occurred in the mustering in of companies and regiments, has been placed upon these officers who have been charged with unnecessary strictness in excluding men for trifling defects. The army requirements, as published in a recent recruiting circular, are that the limits of age should be eighteen and thirty-five years; the height for all arms of the service not less than 5 feet 4 inches, with a maximum limit of 5 feet 10 inches for the cavalry; the weight for infantry and artillery from 120 to 190 pounds, and for cavalry not to exceed 165 pounds. No minimum weight is prescribed for the last-mentioned arm, but the chest-measurement is required to be satisfactory. From 5 feet 4 to 5 feet 7 inches the measurement at expiration 32 to 33 inches, with 2 inches of mobility; from 5 feet 8 to 5 feet 11 inches, 33 to 34 1-4 inches, with 2 1-2 inches of mobility, and men of 6 feet and over, about 35 inches, with 3 inches of mobility. These are not unusual requirements. Moreover, examining boards were authorized to accept men otherwise eligible who did not conform exactly to the figures given in the circular. Nevertheless it appears that so many men, including some of local repute as athletes, have been rejected as unfit, that the daily papers have taken note of the subject and assumed that the proportion of rejections was as unusual as it was unexpected. They endeavor to explain it by suggesting a decadence in the physique of American youths, owing to the prevalence of the cigarette habit, or by holding the bicycle responsible for heart-strain, and its low handle-bar for round shoulders and deficient chest-measurement. But the percentage of

rejections, when officially published, will probably be found to be much smaller than the newspaper articles would lead us to expect. We are confident, however, no matter what the percentage may be that the medical men engaged in this important work have done their duty faithfully and well in the interests of present efficiency and the protection of the pension-rolls of the future, from cases of disability really due to causes existing prior to enlistment.—*Journal of the American Medical Association.*

POST-GRADUATE COLLEGES AND HOSPITALS

The facilities which are afforded to medical men for continuing their education, either in the general curriculum or in special courses, are very limited in Great Britain when compared with those which exist on the continent and in America. The centralization of medical teaching and the treatment of an enormous number of cases under one roof and one state or charitable dispensation, as we find them in many foreign universities and hospitals, cannot be imitated in London. We have no central university and the hospitals are scattered, so that each appeals to its own supporters and considers primarily and rightly the comfort of the patients rather than the efficiency of the teaching. The systematic examination of the sick by a large class of students has not been introduced here as it has been in many continental hospitals. Post-graduate teaching has, therefore, in London never been organized on a centralized system, although lectures and demonstrations have been given, generally on special subjects, at our hospitals and in our laboratories to medical men on payment of a small fee. Also, as stated in *The Lancet* of May 28, a combination of the London general hospitals has lately been formed by which a post-graduate student can attend any special part of the medical course at any hospital which he may choose instead of being limited as hitherto to one hospital. Now our experience leads us to believe that the post-graduate student wishes to attend one or more special departments or special hospitals rather than go through an extended

curriculum, and in this matter he has a large choice in London already both of hospitals and teachers, although his clinical material cannot be brought to one institution. In fact, we think that under existing circumstances—circumstances, however, of very recent origin—the London post-graduate student can now obtain much of what he wants. But that others think differently is proved by a scheme which has been submitted to us for the foundation of a Medical Graduates' College and Hospital on the American rather than the continental plan—that is to say, a college and hospital where qualified men alone are to be taught. We recognize the difficulties which must attend any attempt to combine teaching for students with post-graduate instruction. Of course, a college and hospital for post-graduates alone would be a more desirable method for giving the special instruction they desire, but in order to do this with efficiency provision must be made on a large scale. Lecture-theaters, class-rooms, laboratories, a museum, and a library must have places in such a college, and such a hospital must attract by the wealth of its general and special clinical material and by the reputation of its teachers. Public consultations and advice to medical men on the diagnosis and treatment of their cases will require very careful management or they may possibly come to be regarded in a false light. It is hardly likely therefore that the scheme will receive much support from the teachers and governors of our general and principal special hospitals, and in many instances an active opposition may be excited.—*The London Lancet.*

INHUMAN WEAPONS OF WAR

The above was the title of a paper read by Professor von Bruns at the German Surgical Congress recently held in Wiesbaden. The author refers to the dum-dum bullets, and asserts that he made a number of experiments upon dead bodies or portions of them, with these bullets supplied to the British troops during the recent campaign on the Indian frontier, and states that the results of their contact are fearful and cannot be exaggerated. The *British*

Medical Journal, in answer to this charge, says: "The question of the special effects produced by the dum-dum, it will be remembered, was raised a short time ago in the House of Commons, and the reply of the government was to the effect that the reports as to the mutilating properties were erroneous, and that its effects were not those of an explosive bullet." Since the publication of the *British Medical Journal* containing the above report, two prominent surgeons in the British Indian army have given their views on the subject. Both agree that the dum-dum bullet is not explosive, but that its effects are much more harmful than those of an ordinary small-bore bullet; but they at the same time assert that a bullet-wound from the old-time Snider was much more destructive, and that under the regulations of the Geneva convention the dum-dum bullet can hardly be objected to as an inhuman weapon of war. However, an unofficial reply was made by the British government, that the dum-dum or expanding bullet would not be used against civilized troops. The fear has been expressed that the Spanish Mauser bullet may be transformed into a dum-dum; indeed, it is thought that such transformed bullets were employed by the Spaniards who harried our marines at Guantanamo Bay, for the mutilation of the dead was frightful, and according to the surgeon's report this was the result of the bullets and not of machete-wounds inflicted on the dead by Spanish savages.—*Medical Record*.

THERAPEUTICS OF LITERATURE

What the jaded neurasthenic needs are stories with plenty of ozone in them and a thrill of outdoor life that will make his chest expand in sympathetic emulation, just as we grow hungry and find our salivary glands excreting at the perusal of a mere description of a Dickens Christmas dinner. Even modern literature, in spite of its strong tendency toward coprolalia and verbiage, abounds in tales of marked therapeutic value. In Stevenson the invalid may, in fancy, find for himself an abundance of adventurous healthful travels. He may journey leisurely inland with a donkey,

or, on shipboard, feel the dash of the spray in his face and the roll of the vessel under foot. If he be but a poor seaman, and find inland waters more to his taste, he can make his way by canoe from Antwerp to Pr  cy and intersperse the journey with a sight-seeing on *terra firma*. Tiring of the Continent, he can forego his cicerone at Pr  cy and, in a twinkling, join forces with Jerome and his three jolly fellows in their merry holiday trip up the Thames; or if, now, a land trip appeal more strongly to him, he has but to mount his fancy upon the "Wheels of Chance" and follow Wells' heroic draper's clerk on his week's bicycle outing through rural England.

We sketch these few itineraries in barest outline, the therapeutic list is too extensive for us to attempt an enumeration. A well-known neurologist in speaking to his students some time ago on the treatment of neurasthenia, emphasized the fact that a large element of a physician's success in the treatment of this unfortunately only too common condition, would depend upon his being both a good cook and a *gourmet*. We desire to express our hearty endorsement of this sentiment, and extend the suggestion to the preparation of mental food, thereby laying upon the physician the additional necessity of being at the same time a literary *gourmet* and a censor; for with such an accomplishment he has a tremendously effective agent at his command with which to eradicate that evil most deadly to the neurasthenic's peace of mind, the evil of morbid introspection.

As a final piece of advice—and this we wish to whisper in the doctor's private ear—we would suggest, when the patient has regained his normal balance of nervous and mental activity, and the crucial moment is approaching for the presentation of the bill, that there is no better method of preparing the way than by putting into his hands Maclaren's "Doctor of the Old School." To the many who have experienced that acute softening of the heart which a reading of this touching biography invariably produces, the wisdom of such a procedure will at once be apparent.—*Boston Medical and Surgical Journal*.

CURRENT TOPICS

INFANT HOSPITALS IN CONSTANTINOPLE

Jour. de Cliniq. et de Théráp. inf. (No. 24, June 16, 1898, p. 461) publishes the following interesting letter:

You ask me to give you some notes on the hospitals, hygiene, and protection for children in Turkey. The task is easy; there is none, or almost none. Foundlings in Constantinople are received by the Sisters of St. Vincent de Paul and immediately distributed among the poor Greek or European families dwelling in the suburbs of the capital. The sisters by collections, concerts, charity balls, pay 12 francs per child a month. Of course this pittance is spent chiefly on the children of the family, the little parasite contenting itself with the crumbs and leavings. The Greek ladies patronize a similar work; but, on account of more limited means, their protection covers fewer children. The official mortality is 10 per cent.; the real mortality is enormous, less, however, than it would be in parallel conditions in France, the child being here more resistant and cleanliness more observed than with the French peasant.

The Turks are glad to receive foundlings; it means, if not slaves, at least cheap domestics. Inspection of nurslings does not exist. Theoretically city physicians in Constantinople are expected to visit the houses for hygienic reasons, but they never do it.

The Turks never receive children into their hospitals, and the hospitals of the different European peoples, Jewish, Armenian, Greek, and the Asseki hospital, receive children only above 10 to 12 years of age, except at a single children's hospital.

Nevertheless children are brought for treatment to the dispensaries and hospitals (outdoor department).

Vaccination is theoretically obligatory. Children in the interior are almost never vaccinated; adults refuse vaccination; the children of Constantinople obtain vaccination at the dispensary of the Greek Ladies and at the Saint George's Hospital, the only children's hospital.

This hospital is a private enterprise due to Dr. Violi, who gathered together money little by little from various sources until all was provided to conduct it, with 54 beds, as an annex of the school of the Sisters of Saint George. The sisters look after it and Dr. Violi turns over to them two francs a day for each patient. Children of parents in easy circumstances pay 4 to 6 francs a

day. Dr. Violi gives medical attendance. Other physicians of guaranteed skill may look after the welfare of their own proteges.

Special treatment for massage, orthopedy, electricity cost extra. In spite of the multiplicity of doctors, there are no clashing.

The diphtheria service has 18 beds separated from the rest of the hospital. Other contagious diseases are not treated for lack of accommodation, except in great epidemics of smallpox, when the whole hospital is devoted to it. The bedding and rooms are often disinfected. Such is the work of Dr. Violi in the only children's hospital in Turkey. Work somewhat analogous is done in the six or seven largest towns in the Ottoman empire; but in the smaller towns the children are practically abandoned, receiving only the minimum attention of the government-aided missions. But the Sultan has just given a firman recommending the construction of children's hospitals; in ten years building will be commenced and in twenty years the children will have hospitals.

H.

BITS OF MEDICAL FOLK-LORE

The *Charlotte Medical Journal* (Vol. XII, No. 3) contains a list of the following items collected by Dr. G. W. Morehouse, and reported by him in the *Boston Medical and Surgical Journal*:

1. A child was born to a Russian Jew, and upon the delivery of the after-birth a neighbor of the same race wished to have it. After much questioning the externe learned that she had heard that to eat a placenta is a sure cure for sterility, and proposed to make an experiment.
2. If a pregnant woman stirs boiling soap it will not "come." (Md.)
3. If when a woman is pregnant she touch a piece of meat, it will spoil within an hour. It is said that butchers of the Isle of Jersey will not allow women to handle their meat for fear of loss from this cause.
4. Pregnant women must avoid the smell of paint, else they'll miscarry. (Mass.)
5. If a pregnant woman steps on a tangled rope or string, the child will have the cord around its neck. (Russian Jew.)
6. By an examination of the placenta held in the hand, it is possible to tell how many children the woman is to have. (Russian Jew.)
7. White streaks in the cord show the number of babies. (Russian Jew.)
8. If the mother has a good deal of heart-burn during her pregnancy the infant will have a good deal of hair on its head. (Nova Scotia.)
9. A "longing," the abnormal craving of

a pregnant woman for some special article of food, should be gratified, otherwise the child will be marked by a picture of the desired food. (Common in England and America.)

10. Should a pregnant woman be hit by any object thrown at her, the baby will have a birthmark on a corresponding spot. (Russian Jew.)

11. During the first four months of pregnancy a woman who sees any animal may give birth to that animal, that is, to a monster. To avoid so unpleasant an accident, she should gaze steadily at it until she becomes tired looking, and all will be well. (Russian Jew.)

12. If a mother during pregnancy is startled by a hare crossing her path, the child is liable to have a hare-lip. (Ireland.)

13. A pregnant woman helped her husband butcher hogs; when her child was born it had a pig's head. (Mass.)

14. The placenta should be burned and not buried, for the greater safety of the woman in her convalescence. (Irish.)

15. Do not comb a parturient patient's hair while she is in bed for fear of child-bed fever. (Nova Scotia and New England.)

16. The belief that the possessor of a caul will not meet his death by drowning is probably known to all.

17. A child born with a caul is born to see sights and wonders. (Nova Scotia.)

18. If a pregnant woman kicks a cat, the baby will have milk in its breast, that is, mastitis. (Russian Jew.) The Irish call this witch's milk.

19. If a baby has jaundice, some object of gold should be used about its dress, and it will recover. (Italian.)

20. Tie a new coin in the baby's belly-band and the cord will drop off clean. (Italian.)

20. It is a common belief that a wet-nurse may transmit her disposition or features to the bantling. (New England.)

22. To wash the face with a diaper on which a new-born babe has urinated will prevent or cure freckles. (U. S. and Canada.)

23. Boys urinate on their legs before going in swimming to prevent cramps. (Common in U. S.)

24. Human urine has been in use in bronchial affections. (New Brunswick.)

25. Within recent years a woman in England has been given her own urine after a severe illness to prevent "fits."

26. For scanty menstrual flow, let a young woman drink menstrual blood of a woman who flows freely, mixed with urine of a man. (Pa.)

27. "Rabbit-tea" (made of rabbit-dung dried and steeped) is given for interrupted menstruation. Patient is not to know the nature of the remedy. (Utah.)

28. A physician in Indiana reports that goose-manure is supposed by some in his vicinity to cure pimples on the face.

29. A poultice of fresh cow-dung is used for rheumatism. (N. Y.)

30. Oil tried from the penis of a hog and applied to the loins of a child suffering from weakness of the kidneys or bladder, cures the disease. (Nova Scotia.)

31. To remove tumors from the eyelids rub about the lids with the hands of a corpse. (N. B.)

32. It is not well to sleep with the hands above the head, for by so doing one draws the blood to the head. (Russian Jew.)

"U."

INVESTIGATION ON THE METABOLISM OF NITROGEN AND CARBON IN THE HUMAN ORGANISM

These experiments were made at the Wesleyan University in co-operation with the U. S. Dept. of Agriculture by W. O. Atwater, C. D. Woods and F. G. Benedict (U. S. Dept. of Agriculture, *Exper. Station Record*, Vol. IX, No. 9, p. 863). The object was to determine the income and outgo of matter and energy. The balance of matter is expressed in terms of nitrogen and carbon. Proximate and elementary analyses were made of the food, urines and feces, and their full value was determined with a bomb-calorimeter. The respiratory products were measured and analyzed, the amount of carbon dioxide and water being determined. In connection with the experiments, the apparatus used was modified and improved and experimental methods elaborated. For the measurement of the respiratory products and energy of the body a respiration calorimeter of special construction was made.

The inside dimensions of the respiration chamber are 2.15 by 1.22 by 1.92 meters (85 x 48 x 76 inches) and the volume approximately 4.8 cubic meters. The chamber consists of 3 concentric boxes, the inner one of metal and the two outer ones of wood. The inner box, or chamber, is double-walled, the inner wall being of sheet copper, the outer of sheet zinc. The 2 walls are 8 cm. apart. An opening in the front end of the metal chamber serves both the purpose of a window and a door for entrance and exit.

A current of air is pumped through the apparatus and measured by special devices. Samples of the incoming and outgoing air are taken for analysis.

An inconvenient rise of temperature is prevented by a current of cold water which passes through a system of pipes inside the chamber.

The subjects of the experiments were a laboratory janitor, a chemist, and a physicist, all young men in good health. The food consisted of a simple mixed diet.

The janitor remained in the respiratory chamber 4 days, the chemist 5 days; they performed no muscular work, spending their time in reading or resting. The physicist remained 12 days, which were divided into 3 equal periods of: rest, mental work, and muscular work. The income and outgo of nitrogen and carbon, and the full value of the food, urine and feces are recorded in full for each of the experimental periods. The gain or loss of proteid and fat was calculated from the income and outgo of the nitrogen and carbon. The authors conclude as follows:

"The experience obtained emphasizes the desirability of longer experimental periods than have been customary in experiments of this class. Although a considerable number of respiration-experiments have been made with animals and man, the periods have rarely exceeded 24 hours.

"The prospects for obtaining a satisfactory balance of income and outgo of energy are, on the whole, decidedly encouraging. The determinations of heats of combustion by the bomb-calorimeter are eminently satisfactory, and there seems to be good ground to hope that ultimately the measurements of heat given off from the body may also prove sufficiently accurate for such purposes. Experience in this laboratory since the above experiments were made have yielded results agreeing very closely, indeed, with the theoretical figures.

"The results of these experiments and of similar investigations elsewhere bring out very clearly the difference in the amounts of nutrients and energy required by the organisms of different persons under different conditions, and confirm the results of previous inquiry in showing that *muscular labor is performed at the expense of fats, sugars, and starches*. They also make it clear that the body may draw upon protein for this purpose, although it has not yet been determined just what are the conditions under which this is done."

Palatable mixture of cod-liver oil:

Cod-liver Oil	400 gme.
Syrup of Tolu	200 gme.
Tr. of Tolu	12 drops
Essence of Cloves	2 drops

Do not emulsify. Shake well before using.

ORIGINAL PAPER

THE PATHOLOGY OF NEPHRITIS*

By A. M. DAVIS, M.D.,

Pathologist to the Germantown Hospital

EMBRACING, as it does, all those structural changes ranging from a slight desquamation of renal epithelium to extensive loss of substance with formation of connective tissue, and including important alterations in the chemical composition of the urine, the subject of nephritis becomes at once of more than ordinary interest. Taken biologically, these changes are said to occur either in the archiblastic or parenchymatous tissues of the kidney including the glomeruli or Malpighian tufts and uriniferous tubules; in the parablastic or connective tissues, or both; and it is according to the part of the organ affected and to the degree of involvement that the different clinical varieties of nephritis are derived.

Before taking up the urinary characteristics it may be well to outline briefly the pathological conditions occurring in the different forms usually recognized, namely, acute diffuse nephritis, chronic parenchymatous nephritis (early and late), and the chronic interstitial form known also as the "red granular and contracted kidney."

In the first named, that of acute diffuse or desquamative nephritis, the kidneys in well-marked cases are smaller, darker in color than normally and of softer consistency. On section the capsule strips readily, showing in this stage of the disease the absence of a perihepatitis. The cortex is swollen and drops of blood often exude on section; punctiform hemorrhages are frequently noted. The pyramids are prominent and beefy-red. According to Tyson the kidneys may weigh from eight (8) to twelve (12) ounces.

Histologically the capillary vessels of the Malpighian tufts are filled with cells and thrombi, this being most marked in cases of toxic nephritis. In the uriniferous tubules cloudy swelling and fatty degen-

*Read before the Germantown Medical Society.

eration of the epithelium occur, the nuclei of the cells becoming obscured or disappearing altogether; occasionally fat-droplets may be observed, this condition being spoken of as "dropsical degeneration" by Nanweick-Zeigler. Hyaline casts are often found in the lumen of the straight tubes or Henle's loops, whose origin is, in all probability connected with the albuminous exudate and the emigrated white blood-corpuscles (Strümpell).

The connective tissue between the tubules in acute nephritis shows evidence of a round-celled infiltration, i. e., serum mixed with leucocytes and red blood-cells.

A characteristic anatomical form of acute nephritis has been described by Klebs, Friedländer, and others as "glomerulonephritis," occurring more often in scarlet fever and the other infections, in which hyaline and fatty degeneration is confined to the cells of the Malpighian tufts and abundant desquamation occurs *only* in the glomeruli of the kidneys.

In the second variety, chronic parenchymatous nephritis, the "large white kidney" described by Wilks, is more commonly seen. In this form interstitial changes are more apparent; the organ is large, paler and firmer than normally in contradistinction to the red, boggy kidney of acute Bright's. The capsule is thin and slightly adherent, the cortex being swollen, often striated and opaque. Areas of fatty change may sometimes be observed. The pyramids are often found deeply congested, microscopic examination reveals extensive granular and fatty degeneration in the cortex and epithelial cells lining the uriniferous tubules.

Later the organ diminishes in size, the newly formed interstitial tissue beginning to contract and the tubular substance becoming gradually obliterated and giving rise to the small white or granular kidney. The surface now becomes rough and lobulated, the capsule being adherent and often tearing the kidney-structure on its removal.

The cortex is seen to be reddish and presents many yellow spots—areas of fatty degeneration. On section the same appearances are noted as in the early stage, ex-

cepting that the kidney-structure is more anemic and may show beginning atrophy. Under this form of nephritis may be mentioned a sub-variety—that of chronic hemorrhagic nephritis in which the organs are described as being almost normal in size, but firmer than normal, reddish-gray or mottled in appearance and presenting on the cortex dark-red spots of punctiform hemorrhage surrounded by degenerated yellow or gray-red areas. Perhaps the two chief diagnostic points in distinguishing acute desquamative from chronic parenchymatous nephritis are the evidences of fatty degeneration seen in the cortex and the increase of interstitial tissue, both of which are invariably present in well-marked cases of the latter. Langhaus, however, reports a case directly traceable to a severe wetting followed by death in five (5) weeks from the onset, in which, at autopsy, the connective-tissue elements were found to be markedly increased.

The third and last variety of those mentioned is that of chronic interstitial nephritis, in which the kidneys are much diminished in size, weighing, according to Osler, often not more than one and one-half ounces. Multiple cysts occur on the surface, the capsule being greatly thickened. On removing the latter, portions of kidney-structure are often torn away.

The cortex is reddish, firmer than normal, very granular, and often greatly atrophied, so that cut sections show it to be little more than an enveloping membrane. The pyramids are pale in appearance and distorted in shape, showing atrophy with degeneration; not infrequently is the pelvis found to be the seat of a hydronephrosis.

Microscopically the connective-tissue elements are increased throughout the entire structure, causing atrophy and degeneration in the glomeruli, tubal structures, and cortex.

Such then briefly is the pathology described under the different recognized clinical forms of Bright's disease.

Of the various tumors occurring in the kidney, the lipoma, fibroma, rhabdo-myoma (striated muscle-tumor), retention-cysts, sarcoma, and carcinoma may be mentioned.

these (with the exception of the cysts) being distinguished chiefly by their microscopical appearance. These, by mechanical pressure, or from toxic products elaborated by malignant growths, may be responsible for the occurrence of renal inflammation. It is, however, to the morbid chemistry of the urine that the pathology of nephritis attaches the most interest to the practitioner, perhaps because positive diagnosis seems to hinge largely upon the presence or absence of one pathological element, *albumin*, in this condition. But that albumin is not present in every case of nephritis has been abundantly demonstrated; thus Tyson writes under chronic interstitial nephritis: "The urine is *generally* albuminous, but the albumin is in small amount and may be *temporarily absent*, or it may be absent before a meal and present after it;" while Osler writes of the same variety of nephritis: "Traces of albumin are found, but may be absent at times, particularly in the early morning urine."

In a clinical lecture* delivered at the university hospital Prof. H. C. Wood mentioned a patient whose urine on admission was free from albumin, casts, and almost free from sediment; two (2) days later it had a high sp. gr. and contained many epithelial and both pale and dark granular casts. One month following the second examination neither albumin nor casts could be detected, adding in the course of his remarks that he believed the albuminuria to have been due to the excess of oxalates and lithates which acted as irritant poisons upon kidneys predisposed by original constitution or long irritation to degenerative changes, producing an acute exacerbation of a chronic form of Bright's disease.

Per contra albuminuria may be said to occur in other conditions than that of nephritis, among the more common being (a) Pyelonephrosis. (b) Ureteritis. (c) Purulent cystitis. (d) Renal or vesical calculi. (e) Papillomatous growths of the bladder. (f) Urethritis and in females vaginal and uterine inflammations, two rare causes those of spermatorrhea and chyluria; in

other words the presence of blood, pus, semen, and chyle may give rise to the occurrence of albumin in the urine without the existence of casts.

Simon, in a recent article* on "Functional Albuminuria" asserts: "There can be no doubt in one's mind after carefully searching literature on the subject, that an albuminuria may occur in the absence of organic changes affecting any of the tissues of the body." The physiological albuminuria after the ingestion of large amounts of starchy foods and that occurring in children furnish good illustrations of functional albuminuria.

In examining the urine, then, in a case of suspected nephritis several factors need to be necessarily considered, among which may be mentioned the following:

(a.) The whole quantity excreted during twenty-four (24) hours, for upon this sum total will largely depend the specific gravity and only in this way can the relative amounts of solids (principally urates, uric acid, and urea), and the quantity of albumin, if present, be definitely known.

(b.) The proportionate amounts of the normal constituents of the urine (namely, the uric acid, urates and urea just referred to) should be carefully estimated, for it has been found that in acute desquamative nephritis the percentage of urea is reduced from one-fourth to one-half below that in health, the total amounts of phosphates and chlorides being also reduced. In chronic parenchymatous nephritis, while the specific gravity remains nearly normal, the salts of the urine (chlorides, urates, and phosphates) are greatly diminished in amount, the urea being almost nil in the majority of specimens examined, its reduction varying, according to Tyson, with the amount of albumin present.

In the interstitial variety the specific gravity is usually very low (1.002-1.006), the normal constituents of the urine all being generally diminished. So important are these factors that authorities on the subject urge that the estimation of the quantity of urine voided, the specific gravity, and the relative amount of solids present aid ma-

* *University Magazine*, June, '95

* *Medical News*, Nov. 2, '95.

terially in the diagnosis of nephritis with or without co-existing albuminuria.

(c.) Lastly, careful examinations should be repeatedly made for the presence or absence of albumin and casts. As before mentioned, according to Wood, Dickinson, and others, these may be temporarily absent in nephritis, a good theory mentioned being that as only a portion of the kidney-structure is involved, the remaining normal portion carries on the eliminative process; when, therefore, any severe strain is thrown upon the kidney, as that occurring with violent exercise or during a severe "cold," or in the course of a fever, the diseased area tries to perform its function with the appearance of albumin and casts. On the other hand casts may, and often do, occur in certain forms of nephritis (notably chronic interstitial) without albumin being demonstrated by chemical analysis and Heller's nitric-acid test, although detecting 0.00025 per cent. of albumin may fail to reveal its presence in a nephritic specimen containing but a small number of tube-casts.

When, however, both albumin and casts are present the existence of renal inflammation becomes positive.

In acute parenchymatous nephritis microscopic examination reveals the presence of epithelial, hemal, hyaline, pale, and dark granular casts, the hyaline being probably composed, according to Tyson, of pure fibrin. In passing through the uriniferous tubules epithelial cells and leucocytes become entangled in the coagulated exudate, giving rise to epithelial or hemal casts. In addition, free epithelial cells undergoing granular change or cloudy swelling, blood-corpuscles, and pus-cells may also be found in the sediment from a specimen of acute parenchymatous nephritis.

In the chronic parenchymatous form pale and dark granular casts predominate, the latter being composed for the most part of epithelial cells which have undergone fatty degeneration. Oil-casts, yellow waxy casts, and compound granule-cells (so-called corpuscles of Gluge), which are degenerated epithelial cells, may also be found. These last are said never to occur in acute nephritis.

In the red granular and contracted kidney, or chronic interstitial variety, casts, as before mentioned, are sometimes conspicuous by their absence and when occurring are not distinctive, being of the hyaline and granular type, together with a few oil and waxy casts. Perhaps microscopical examinations may be said to be the most valuable in distinguishing between the acute and early chronic forms of nephritis.

In conclusion, various pathological changes may be induced in the kidneys and urine by the toxins of certain diseases (notably that of diphtheria) and in the elimination of certain chemicals, such as lead, arsenic, and alcohol. Thus H. C. Wood* cites the case of a chemist who came to him in great alarm on discovering albumin in his urine, with hyaline casts. Finding that he was at that time experimenting with preparations of arsenic which emitted fumes of arsenuretted hydrogen gas, it was suggested that his line of work be changed, with the result that all evidences of renal congestion promptly disappeared without a recurrence of albuminuria till many years later. C. A. Carey† recorded a series of experiments performed with the urines of diphtheritic patients; of five (5) animals inoculated two (2) exhibited the lesions of experimental diphtheria, all dying finally of toxemia. His conclusions tended to show that the urine of diphtheria contained a mild toxin which, when injected into guinea-pigs suffering from diphtheria, is not sufficient to neutralize or counteract the diphtheritic virus.

Germantown, Pa.

Experimental Typhoid Fever

In the case of typhoid fever it has been claimed by many that Koch's law, with reference to experimental production of the disease, had never been established. P. Rumlinger, in the *Annales de L'Institut Pasteur*, Vol. XI, p. 829, believes that he has accomplished this for the rat and rabbit. He feeds them on an ample leguminous diet which is abundantly and carefully inoculated and he has thus obtained a disease which he believes to be bacteriologically and anatomically identical with typhoid fever. J.

* *Univ. Med. Magazine*, June, '93.
† *Medical News*, September 21, '95.

ADDRESS

THE ADDRESS OF PRESIDENT GEORGE M. STERNBERG, M.D.*

Fellow Members of the American Medical Association :

I desire at the outset of my presidential address to express to you my high appreciation of the honor conferred upon me and my thanks for the same. I esteem it a special honor to have been elected president of the American Medical Association at the semi-centennial meeting in Philadelphia. The large attendance, the hospitable reception accorded us by the citizens of Philadelphia, the admirable arrangements for our meetings, the high professional and scientific standard of the general addresses and of the papers read at the sectional meetings, all contributed to make this a memorable meeting, and it will be a matter of just pride in the future for those members who are able to say, "I was present at the semi-centennial meeting of the American Medical Association in Philadelphia in 1897." Possibly some of our younger members may have the privilege of attending the centennial meeting of the association in 1947 and of giving testimony with reference to the success of the semi-centennial meeting and the status of scientific medicine at the close of the nineteenth century. If so, they will not fail to mention the fact that the founder of the association, Dr. Nelson S. Davis, was present on this occasion and that the distinguished American surgeon, Nicholas Senn, was the presiding officer.

I congratulate you upon the favorable prospects for a pleasant and profitable meeting of the association in this beautiful and hospitable city of Denver. I have had no doubts as to the success of the meeting over which I am called upon to preside since I heard the decision as to the place selected for our annual convocation. The invigorating air of this elevated region, the grand mountain scenery, and the inducements to activity offered by a state rich in mineral resources, all are conducive to physical and mental energy and to a broad-minded liberality, the results of which will no doubt be apparent in the arrangements made for the scientific work of the association and for the entertainment of its members.

Our association, as the representative body of American physicians, will no doubt

continue to increase in membership and in influence. The day is perhaps not far distant when no reputable physician will be willing to confess that he does not belong to the American Medical Association and when no progressive physician can afford to do without our Journal. And in order that every physician of good professional standing may enjoy the privileges of membership I think it desirable that "Permanent Members" should be elected, upon application, without reference to their membership in "State, County, or District Medical Societies" when they present satisfactory evidence that they are graduates in medicine of reputable standing in the profession and are willing to subscribe to the code of ethics of the American Medical Association. In other words, I would not exclude a reputable physician from membership because the State, County, or District Medical Society to which he belongs declines to adopt our code of ethics. If he, individually, is willing to be governed by the regulations made by this representative body I see no good reason for rejecting his application for membership.

A liberal and progressive spirit will do much toward promoting the growth and influence of the association. The medical profession in this country has suffered more from the ignorance of some of its members who hold diplomas from regular schools of medicine than from the attacks of those whom we call irregulars or quacks. Scientific medicine, being founded upon demonstrable truths, must in the end maintain itself and secure the confidence of the people. But when the results of scientific research are rejected through ignorance of the experimental data upon which they are founded, and the layman hears contradictory professional opinions about matters which the well informed knows to be definitely settled, he may be excused for not differentiating so sharply as we are disposed to do between regulars and irregulars. To maintain our standing in the estimation of the educated classes we must not rely upon our diplomas or upon our membership in medical societies, but must show ourselves superior in knowledge and in professional resources to the ignorant pretender or to the graduate of a medical school which is bound in its teachings by an untenable creed, adopted before the light of science had taught physicians to reject theories and the dicta of authorities in favor of truths demonstrated by modern methods of research. There are those who still speak of us as "old-school physicians," ignorant apparently of the fact that scientific

* Read by Dr. Colonel Woodhull in the absence of President Sternberg at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

medicine is to a great extent of very recent origin, and that all of the great discoveries in relation to the etiology, prevention, and specific treatment of infectious diseases, and nearly all the improved methods and instrumental appliances for clinical diagnosis and surgical treatment have had their origin within the ranks of the regular profession. While, therefore, we still have with us some "old-school doctors," who have fallen behind the procession, the profession as a whole has been moving forward with incredible activity upon the substantial basis of scientific research, and if we are to be characterized by any distinctive name, the only one applicable would be "*the new school of scientific medicine*." Not that our science is complete, for we have still many things to learn and many problems which have thus far resisted all efforts at their solution; but we have learned how to attack these problems and no one any longer expects that they can be solved by the exercise of the reasoning powers and the facile use of the pen. The old saying has it that "the pen is mightier than the sword." This is no doubt true in politics, but in science the pen is a feeble instrument compared with the test-tube, the microscope, the chemical balance, etc. Nevertheless, I am about to advise well-informed physicians to make greater use of the pen, not for the elucidation of those problems which remain to be solved, but for the purpose of calling the attention of the non-medical portion of the community to the recent achievements of scientific medicine. It is a remarkable and lamentable fact that many persons belonging to the so-called educated classes are grossly ignorant as regards the present status of medical science. They not only speak of us as "old-school doctors," but they entrust their lives and those of their children to pseudo-scientists who, taking advantage of popular interest in the great discoveries of the day, make extravagant claims as to the curative power of electricity, the X-ray, oxygen, ozone, or some wonderful microbe-destroyer. Or, ignoring the exact knowledge which has been gained by experience and painstaking researches with reference to the etiology of various diseases and the curative action of approved therapeutic agents, they accept the vagaries of the osteopath and the Christian scientist as representing the latest development of scientific progress in medicine. The false assertions and claims of ignorant enthusiasts and conscienceless vampires, as a rule, pass unchallenged. Not only are they able to impose upon a gullible public through their published advertise-

ments, but articles written by them or for them appear in the columns of reputable newspapers. The ever-present and irresponsible newspaper reporter espouses their cause through ignorance or for gain and their wonderful cures are related and copied from one paper to another without any competent critic raising his voice to show the fallacy of the claims. Again, positive denials of the value of the well-established achievements of scientific medicine are often made, unfortunately too often, by men who are authorized to attach the letters M.D. to their signatures. This leads to the frequent repetition of the old question as to "who shall decide when doctors disagree?" No matter how well a fact may be established by repeated experiment or by the common experience of the profession, some doctor may be found who, through ignorance or that obliquity of mental vision which characterizes the crank, will deny its truth. Thus, there are doctors who deny the value of vaccination, others who fail to recognize any value in results obtained by experiments on the lower animals, others who deny the etiologic rôle of well-known pathogenic bacteria, etc. As a result the anti-vaccination and anti-vivisection societies are able to fortify their position by quoting the opinions of medical men of more or less repute. But opinions are of no value when opposed to evidence, and it seems to me that those familiar with the evidence would do well to give to the public concise and comprehensible statements, suitable for publication in newspapers and popular magazines, setting forth the facts and the evidence upon which these facts are accepted by well-informed physicians. But in doing so, great care should be taken not to make any assertions that are not based upon reliable data. A distinguished surgeon who has taken an active part in opposing the anti-vivisection bill introduced into the Senate of the United States through the influence of the Washington Humane Society, recently wrote me as follows:

I have been corresponding with Welch, Burrell, Bowditch, and others in reference to the formation of a society for the distribution of literature and fostering the sentiment in favor of scientific research. I would be glad to have your own views on the matter. It has occurred to me that at the meeting of the various special societies and especially at the American Medical Association this spring it might be well to introduce resolutions indorsing the formation of such a society.

In reply to this letter I said:

With reference to your suggestion as to the formation of a society for the objects mentioned, I think the idea is a good one and shall be glad to aid you in carrying it out. I think we have

given those who are opposed to scientific medicine too much rope in allowing them to publish all sorts of misleading statements without our taking the trouble to contradict them or to educate the people. If we had an association organized for the purpose of answering such false statements as have circulation in the newspapers much good might result. When this is left to individuals generally no action is taken, on account, perhaps, of the disinclination on the part of competent physicians to have their names attached to articles appearing in the newspapers lest they may be thought by their professional brethren to be seeking notoriety and be accused of unethical conduct. Certainly it seems to me that the profession has a duty to perform in this direction, and I hope you will take some steps to bring about such an organization as you suggest.

In carrying out this plan care should be taken not to engage in controversy with individuals whose misleading statements we desire to correct, but rather to have a systematic plan for placing the truth before the public. For example, an article on the medical uses of electricity might show its limitations and call attention to the fact that it has no germicidal effect when currents are used which are not destructive of the living tissues. Reference might then be made to the unscientific nature of the evidence offered in favor of the curative action of electric belts, electric rings, and the electropoise, which is described as "a little instrument which enables the system to take on oxygen freely from the atmosphere." I venture to quote from a paper entitled "Science and Pseudo-Science in Medicine," which I read before the Anthropological Society of Washington in 1896, in further illustration of the kind of missionary work in the education of the public which I think such an organization as has been proposed should undertake. Referring to the electropoise, I say:

The *modus operandi* of this wonderful instrument is more fully explained in the following published certificate (advertisement in *McClure's Magazine*):

One might conclude, from its name, that it was an electric battery. But it does not generate electricity, and is in no sense a battery, belt, sole, or anything kindred to them. It consists of a small cylinder called a "polarizer," which is used in connection with the patient's body by means of a common electric cord. This polarizer causes oxygen from the atmosphere to be absorbed by the entire surface of the body with great rapidity, the strength of the absorption being regulated according to the ability of the patient to receive.

After a year's use we have this to say in its favor: 1. We have taken no medicine for the year. 2. All traces of la grippe and an old sunstroke trouble have disappeared and no symptoms of either remain. Once or twice, from severe overwork, we have found it necessary to hold up for a few days, but in no time for fifteen years have we been better than during the past year. Much of this we attribute to the use of the "Electropoise."

This notice of the "Electropoise" is without solicitation and entirely gratuitous. We do it for the good of the afflicted. We have no personal interest in it and are not paid for what we say in its favor. Persons desiring further information can address the agent.—Rev. Wm. McDonald in *Boston Christian Witness*.

"We would suggest to the Rev. William McDonald that he try the following simple experiment: Having connected the 'polarizer' with his leg by means of the 'common electric cord,' let him place one hand over his mouth and nose, thus shutting off oxygen of the atmosphere from the lungs, which have been provided by nature to furnish the necessary supply of this gas. Now let him note by a watch how long the supply of oxygen 'absorbed from the entire surface of the body' will answer as a substitute for nature's method of supplying this gas. We venture also to suggest to the Rev. William McDonald that 'all traces of la grippe and of an old sunstroke trouble' might have disappeared during the year if he had not used the electropoise. Assuming that this certificate is genuine, it answers very well to illustrate the fact that educated men who have not been trained in the methods of scientific investigation often arrive at conclusions entirely unjustified by the evidence before them and by the dangerous use of the *post hoc ergo propter hoc* method of argument."

The fact that a considerable proportion of those who are sick from various acute or chronic ailments recover after a time, independently of the use of medicinal agents or methods of treatment taken in connection with this tendency to ascribe recovery to the treatment employed, makes it an easy matter to obtain certificates of cure for any nostrum which an unprincipled money-seeker may see fit to offer to a credulous public. If 10 in a 1000 of those who have used the alleged remedy believe themselves to have been benefited, their certificates will answer all purposes of exploitation and the 990 will not be heard from by the general public. As was to have been expected, the X-ray has already been made a source of revenue by more than one pseudo-scientist. The following account of the *modus operandi* of its supposed therapeutic action has recently been published in the newspapers:

After the Crookes tube is excited by the coil the magnetic lines of force are projected down in the same manner as they pass off from a magnet, and traversing the intervening space, pass through the body down to the floor and back to the coil and tube again, completing the circuit.

The X-ray is electrostatic in character and of a very high potential. With every discharge from the Crookes tube oxygen is liberated in the body, as well as the surrounding atmosphere, which, combining with nascent oxygen, forms ozone.

It is due to the electrolysis produced in the

body that we are able to **destroy** the bacilli in contagious disease, ozone being the most powerful germicide known.

We remark, first, that we do not fully understand why "the magnetic lines of force" are reflected back by the floor, "completing the circuit." Inasmuch as the X-rays pass through wood, this mysterious action of the floor appears to call for some further explanation.

We will pass by the ingenious explanation of the formation of ozone, as a result of the action of the X-ray, to call attention to the mistaken statement that ozone is "the most powerful germicide known."

The experiments of Fränkel show that the aerobic bacteria grow abundantly in the presence of pure oxygen, and some species even more so than in ordinary air.

It was formerly supposed that ozone would prove to be a most valuable agent for disinfecting purposes, but recent experiments show that it is not so active a germicide as was anticipated, and that from a practical point of view it has comparatively little value.

Lukaschewitsch found that one gram in the space of a cubic meter failed to kill anthrax spores in twenty-four hours. The cholera spirillum in a moist state was killed in this time by the same amount, but fifteen hours' exposure failed to destroy it. Ozone for these experiments was developed by means of electricity.

Wyssokowicz found that the presence of ozone in a culture-medium restrained the development of the anthrax bacillus, the bacillus of typhoid fever, and others tested, but concludes that this is rather due to the oxidation of bases contained in the nutrient medium than to a direct action upon the pathogenic bacteria.

The conclusion reached by Nissen, from his own experiments and a careful consideration of those previously made by others, is that ozone is of no practical value as a germicide in therapeutics or disinfection.

Unfortunately lack of information relating to the definite results of scientific investigations is not confined to the non-medical members of the community. The statement above quoted to the effect that the X-ray, by electrolysis, produces ozone when passed through the body and that ozone is the most powerful germicide known, sounds very scientific, and having been made by one who has a legal right to attach the letters M.D. to his name, no doubt has been accepted as a reliable statement of fact by many educated people who have read the newspaper paragraph in which the statement occurs, which, having started in Chicago, was widely copied as an item of interest to the public in connection with the recent discovery of the remarkable properties of the X-ray.

Whenever any new discovery in medicine is announced some conservative physicians, and often men of reputation in the profession, are sure to commit themselves to a positive denial of the alleged fact. This occurred when the discovery of the tubercle bacillus was announced by Koch, it has occurred with reference to the treatment of diphtheria by antitoxin, and to the pre-

ventive treatment of hydrophobia by Pasteur's method. Yet these discoveries are based upon experimental evidence of the most unimpeachable character. To deny their reliability at the present day is simply to show ignorance of the nature of this evidence or a failure to appreciate its scientific value. Often the positive and premature statements of a physician relating to new discoveries in medicine are corrected, or at least regretted, at a later date; but sometimes the pride of opinion prevents a retraction in the face of the most conclusive evidence. The result is that such opinions, although they may have been given years ago, are always available to controvert the statements of those who maintain the value of vaccination, of experiments on the lower animals, of the diphtheria antitoxin, etc., and the non-medical public very often accept the opinions which coincide with their preconceived views, or arrive at the conclusion that there is nothing settled in our so-called medical science. It should be our aim to remedy this evil by elevating the standard of medical education, as we are doing in many parts of the country, by impressing upon the rising generation of physicians the importance of laboratory work not only as a means of instruction, but for the purpose of cultivating a scientific spirit of inquiry and just appreciation of the value of experimental evidence; and, finally, by instructing the public with reference to the present status of scientific medicine, the difference between fact and fancy, between the vagaries of the imagination and the demonstrable results of scientific investigation.

With the progress of scientific medicine, we have improved methods of teaching, and it is now generally recognized that reading medical books and listening to lectures is not a sufficient preparation for the practice of medicine, any more than the reading of books on navigation would be for the responsible position of captain of an ocean steamer. It is for this reason that we insist upon the study of anatomy in the dissecting-room, the teaching of methods of diagnosis and treatment at the bedside, and of chemistry, physiology, and pathology in the laboratory. It is only within the past few years that our leading medical colleges have provided suitable facilities for practical laboratory work and even at the present day, as I understand, the laboratory courses are not compulsory in some institutions which provide for a four years' course of study as a requisite for receiving the degree of doctor of medicine. From my point of view these laboratory courses are a most

essential part of the medical curriculum, not only because the student becomes familiar with the use of instruments and methods which will be of inestimable value to him in the practice of his profession, but especially because of the effect of the kind of training he there receives in enabling him to judge of the imperfections of our unaided senses and the small value of opinions in comparison with that of facts capable of demonstration; as also the relative importance of many things which to the superficial observer might appear to be insignificant and unworthy of attention. He learns not to accept the assertion of the professor in the lecture-room or the dictum of any authority if this is in conflict with experimental evidence which he is able to verify for himself. On the other hand, he learns not to have an overweening confidence in his own judgment and powers of observation. He may fail to demonstrate the flagella on the typhoid bacillus, or the presence of the plasmodium in the blood of a malarial-fever case, or of a trace of arsenic in the tissues of one who died with symptoms of arsenical poisoning. But having learned by repeated investigation that the failure was due to his want of expert skill in the use of the microscope or in the application of delicate methods of investigation, he learns that it is unscientific and injudicious to give a premature opinion in regard to any subject under investigation, and especially so when this opinion is based upon negative evidence. Failure to find the tubercle bacillus in a given specimen of sputum has little value unless the examination has been repeatedly made by an expert. It unfortunately too often happens that physicians, after a very perfunctory investigation, give a positive opinion based upon negative evidence. I have investigated, I have not found, consequently it does not exist. This is the attitude of the unscientific but self-satisfied man and it often leads to mistakes which are not only discreditable to the individual but damaging to the profession of medicine; for the mistakes of the doctors, as a rule, attract much more attention than their successes. The painstaking work and attention to details required of students engaged in chemical, physiological, bacteriological, or historical studies, and the failure in their attempt to repeat an experiment or demonstration if through haste or carelessness they neglect any steps in the necessary technical processes, constitute an invaluable lesson. Indeed the scientific medicine of the present day can only be taught by such methods, and the scientific physician of the future

must make his way to fame and fortune by traveling this somewhat difficult and time-consuming road.

I have spoken of the danger of arriving at hasty conclusions upon negative evidence, and wish now to call attention to the fact that physicians too often fail to recognize the value of negative evidence as opposed to the deductions made from facts coming under their immediate observation. Thus, a case of paralysis following diphtheria may be ascribed to the administration of diphtheria antitoxin, but in view of the fact that paralysis often follows diphtheria when no antitoxin has been given, and of the negative evidence relating to the administration of the antitoxin in thousands of cases and in immunizing doses in other thousands of individuals, the deduction in a particular case that paralysis and the administration of antitoxin stand in the relation of cause and effect may well be doubted. Again, when a case of yellow fever occurs in one of our seaport cities, failure to trace the channel of infection has not infrequently led to the inference that the disease was of local origin. The fallacy here depends upon the assumption that the investigation has excluded all possible avenues for the importation of the infectious material from a foreign source, and a want of appreciation of the negative evidence which shows that yellow-fever epidemics never have their origin at interior towns, and that they do not originate at towns on the seacoast which have no foreign commerce. As well might we conclude, as perhaps some have done, that a case of smallpox is of *de novo* origin because the physician who sought to find the source of contagion was unable to do so. The negative evidence, relating to the non-occurrence of smallpox among persons not exposed directly or indirectly to contagion, is so conclusive that the profession accepts it as a fact that this disease does not originate independently of a previous case. It is a remarkable fact that some physicians still contend that the deaths which occur from hydrophobia in persons treated by Pasteur's method are due to the treatment and not to the bite of a rabid animal. If there is anything definitely settled in medical science we know that there is an infectious disease which we call hydrophobia, or rabies, which is transmitted from one animal to another and from animals to man by inoculation, through the bite of a rabid animal. Yet this well-established fact is denied by certain physicians. And ignoring the fact that more than ninety-nine out of one hundred of those who have been subjected

to the Pasteur treatment have not developed hydrophobia although they had been bitten by animals proved in a considerable proportion of the cases to have been rabid the inference is drawn that the few deaths (less than 1 per cent.) from hydrophobia which have occurred during or after the treatment are due to this and not to the bite of the rabid animal which preceded the application for treatment.

My object at present is simply to illustrate the value of negative evidence and not to present in detail the experimental evidence relating to the success of Pasteur's method of preventing the development of the disease in persons bitten by a rabid animal. But I may say, *en passant*, that this is one of the great and well-established achievements of scientific medicine, which, however, is still doubted by many physicians not familiar with the evidence and positively denied by those who prepare and circulate sensational anti-vivisection literature.

In supporting this view they ignore the evidence and publish the opinions of physicians, more or less distinguished, in opposition to the value of the method; which opinions were in some cases given years ago and before the method had been subjected to a sufficient test to demonstrate its practical value. The point I am trying to make clear is that it is not only unscientific to give a positive opinion in advance of the evidence, or by one who is not entirely familiar with it, but that such snap judgments reflect discredit upon the profession. They are used by the enemies of scientific medicine to support their denial of any value resulting from animal experimentation, and greatly increase the difficulties of those whose task it is to convince legislative bodies that the progress made in scientific medicine during the past twenty-five years has been largely due to such experiments, and that restrictive legislation would to a great extent, arrest this progress.

Having referred to the injurious consequences of premature and unfounded opinions, especially when given by men of prominence in the profession, I desire to call attention to the best method of counteracting such mischief. This is undoubtedly by united action on the part of the more enlightened members of the profession in behalf of truth and progress. This assistance we have had in combating the anti-vivisection bill introduced into the United States Senate and vigorously pressed by the members of the Washington Humane Society, supported by their misguided friends in various parts of the country. The result

has been eminently satisfactory, and shows that when exercised in a just cause the influence of the medical profession is a factor which will not be ignored even by the Senate of the United States.

Having made frequent reference to scientific medicine, it may be profitable to spend a little time in a consideration of the foundations, methods, resources, and prospects of medical science as it exists to-day. We admit in advance that there is still much in medical teaching which is not science, but which is founded upon unproved theories and the traditions which have come down to us from a pre-scientific age. But medical teachers and writers show a constantly increasing appreciation of the methods of science and of the nature of the evidence demanded by it for the establishment of truth, and a corresponding want of respect for assertions and theories the truth of which has not been demonstrated.

In all departments of science our exact knowledge has been obtained by observation and experiment, and the advancement of science has largely depended upon improvements in methods of observation and experiment. Thus, the primitive astronomer observed the stars with the unaided eye, but the astronomy of the present day depends upon observations made with the telescope, measurements made with instruments of precision and mathematical processes, the results of which can be controlled and proved in various ways. So in medicine, the older physicians relying upon their unaided senses, made and recorded observations, some of which were exact and constitute part of the medical science of the present day, but many of which were inexact and unreliable, as were the inferences drawn from them. Until the compound microscope was invented and perfected we had no means of discerning the micro-organisms which have been proved to be the cause of many of the infectious diseases, or of recognizing the histological changes which result from various disease processes. By the invention and practical application of such aids to diagnosis as the stethoscope, the ophthalmoscope, the clinical thermometer, the laryngoscope, the vaginal and rectal speculum, the stomach-tube, the urinary test-case, the microscope, and the X-ray apparatus, we are able to recognize pathological conditions which to the unaided senses of our predecessors were beyond discovery, and which being known only by their effects led to vague speculations and vain theories as to the etiology of disease.

Evidently scientific medicine must be founded upon an exact knowledge of the

structure (anatomy) and functions (physiology) of the human body in a healthy condition and of the changes in structure and function (pathology) which result from various disease-processes; of the causes (etiology), natural history (clinical medicine), and regional distribution (medical geography) of the diseases which afflict mankind and the lower animals (comparative pathology); of the toxic action of various substances from the animal and vegetable kingdom (toxicology), and of the use of these and of other non-toxic substances, physical agents, etc., in the treatment of disease (therapeutics) and of the prevention of disease by disinfection, quarantine protective inoculations, etc. (prophylaxis).

Anatomy, as a fundamental branch of medical science, may be said to have had its birth when dissection of the human body was first practised by the Greek physicians Herophilus and Erasistratus, about 300 years before the birth of Christ. Since that time constant additions to our knowledge have been made by the same method, and during the present century by the use of the compound microscope, of various staining methods, etc., which have revealed to us the minute anatomy of the tissues. The discovery that various tissues are made up of cells of diversified forms and functions, and that all of these have their origin from one primordial mother cell—the ovum, belongs to the present century and must be regarded as a fundamental fact in its relation to scientific medicine.

The study of structure naturally preceded that of function, and accordingly we find that physiology is of recent birth. Indeed, physiology had no scientific foundation before the discovery of oxygen by Priestly in 1774, and its progress since that time has gone hand in hand with that of chemistry. Some of its most notable achievements during the present century are: The discovery of the digestive ferments and their action, of the function of the red corpuscles of the blood as carriers of oxygen, of the glycogenic function of the liver, of the inhibitory influence of the pneumogastric nerve upon the heart. It is evident that in advance of these discoveries, which all belong to the present century, there was no scientific basis for medicine so far as physiology is concerned. But today the tripod upon which scientific medicine rests, viz., anatomy, chemistry, and physiology, is a substantial structure made up of established facts. While scientific medicine could not exist independently of these fundamental branches, they simply

constitute the basis upon which the superstructure has been reared, to a large extent during the last half of the present century. The histologic changes which occur as a result of various disease-processes, were unknown and unknowable in advance of the invention of the compound microscope, and the same is true as regards the etiology of infectious diseases. While we owe much to the methods of research devised by Pasteur, Koch, and other pioneers in this line of investigation, in the application of these methods the compound microscope is absolutely indispensable. And as medicine could not claim to be scientific so long as we were ignorant as to the etiology of disease, and of the histologic changes resulting from disease-processes, we must recognize the perfection of the compound microscope as the most important event of the century from our present point of view. The principle involved in the construction of the compound microscope was invented as long ago as the sixteenth century, but it is only within the present century, that those improvements have been made which have made it available for etiologic and histologic studies. There is, however, a growing disposition to suspect that our microscopes, notwithstanding the great degree of perfection attained in their construction, are still inadequate to the task of revealing to us the specific infectious agents of certain diseases, because of their minute size.

In a late number of the *Centralblatt f. Bacteriologie*, Löffler and Frosch have published their official report of investigations, made for the German Government, relating to the etiology of foot-and-mouth disease of cattle, the results of which are very interesting in this connection. As in smallpox, rabies, scarlet fever, typhus fever, and certain other infectious diseases, the efforts heretofore made to demonstrate the specific etiologic agent in foot-and-mouth disease have been unsuccessful. The carefully conducted investigations of Löffler and Frosch also failed to demonstrate the presence of any specific micro-organism in the lymph drawn with proper precautions from the vesicles about the mouth or udder of infected cows. Cultures in various media inoculated with this lymph remained sterile and no micro-organisms could be demonstrated, by the use of the microscope, in stained preparations. Nevertheless, experiments showed that this lymph was infectious material and that calves inoculated with a very small amount of it invariably developed the disease in two or three days. Very much to the surprise of the investigators named, they found that lymph which

had been filtered through a porcelain cylinder, which was proved by experiment to arrest the passage of bacteria, retained its full infecting power. That the result was due to the multiplication of the infectious agent in the body of the infected animal, and not merely to the introduction of a very toxic non-living substance present in the lymph, was shown by the small dose required to produce the disease (1.10 to 1.40 Cc. of filtered lymph), and also by the fact that the disease could be transmitted to other animals by inoculating them with like amounts of lymph taken from the vesicles which developed in the calves inoculated with filtered lymph. The authors conclude their report as follows:

It seems difficult to escape the conclusion that the action of filtered lymph does not depend upon a soluble constituent, but upon an agent capable of self-multiplication. This must be so small that it can pass through a filter which retains the smallest known bacteria. The smallest hitherto known bacterium is the influenza bacillus of Pfeiffer. This has a length of 0.5 to 1 μ . If the supposed micro-organisms of foot-and-mouth disease were only 1-10 or even 1-5 the size of this, which is not at all impossible, it would, according to the reckoning of Professor Abbe, of Jena, be too small to be recognized by our microscopes, even when provided with the best immersion objectives.

In the department of etiology the most brilliant and far-reaching discoveries of the century are the discovery of the anthrax bacillus (1850) and demonstration of its etiologic relation to the disease with which it is associated, by Davaine, Pasteur, Koch, and others (1863-1875); the discovery of the tubercle bacillus by Koch (1882) and the discovery of the malarial parasite by Laveran (1879). These discoveries, so essential to the progress of scientific medicine, would evidently have been impossible without the aid of the compound microscope. But just here I wish to insist upon another point, which is, that for the untrained eye the microscope is little better than a toy and it may even be regarded as a dangerous instrument because of the inevitable mistakes which the novice will make if he undertakes to decide questions of diagnosis by the use of high-power oil-immersion objectives, without having had the necessary training for such delicate work. In blood examinations, especially, considerable experience is necessary in order to give value to the evidence afforded by a microscopic investigation. It is a very easy thing for the non-expert to overlook the malarial parasite, and still easier to mistake vacuoles in the corpuscles, deformed red corpuscles, etc., for parasitic elements. But the scientific physician will make himself an expert and I trust the time is not far distant when

the microscope will be considered by the practising physician as essential for daily use as is the stethoscope, or even the clinical thermometer.

For the illiterate and even for many of the so-called educated class the whole of medicine consists in the cure of disease by medicines, or by some agency, natural or supernatural, and a failure to cure is evidence that medicine is not a science. We readily admit that the cure of disease is one of the principal objects which medical science has in view, and that from a scientific standpoint therapeutics is very much behind some of the other branches of medicine. This is shown by the diversity of remedies prescribed for certain diseases, and the failure of any one of these remedies to effect a cure in many cases. But on the other hand, therapeutics has made great advances during recent years and by the application of scientific methods of research, the exact value of alleged remedies and of various methods of treatment is now determined with far greater precision than formerly.

A few years ago the intelligent and honest physician did not claim to have any considerable number of specific remedies at his command; but his scientific knowledge relating to the cause, symptoms, and pathology of disease enabled him to conduct many cases to a successful termination, which without his assistance would have proved fatal. By the use of instruments of precision and scientific methods of investigation he was able to make an early diagnosis, and to give advice which might stay the progress of a disease, which in its more advanced stages it would have been beyond his skill to arrest.

Recently several additions have been made to the list of specific therapeutic agents, and there is good reason to believe that further discoveries in this direction will be made as a result of investigations now being conducted in pathologic laboratories in various parts of the world. Among the most important recent discoveries in this department of scientific medicine, I may mention the use of thyroid extract for the cure of myxedema, and the antitoxin of diphtheria. The discovery of the diphtheria antitoxin promises to be as important for therapeutics as the discovery of the anthrax bacillus was for etiology, and will no doubt henceforth be regarded as one of the most notable achievements of the century. It resulted directly from laboratory experiments relating to the production of immunity. The demonstration of Pasteur that animals

could be rendered immune against anthrax and other infectious diseases by one or more inoculations, with an attenuated culture of the pathogenic bacillus to which they were due, at once led to an attempt to explain this immunity, and to numerous experimental investigations having this object in view. The result of these investigations was the discovery that the blood of animals rendered immune by such inoculations contains specific antitoxins which may be utilized for the production of immunity in other susceptible animals, and also in certain cases, for the cure of an infectious disease. While the practical results have been most notable in the case of diphtheria, some success has been attained in the specific treatment of tetanus, streptococcus-infection, pneumonia, and even in tuberculosis. These results give encouragement to the hope that future investigations may develop methods of obtaining these antitoxic substances in such form and amount as will enable us to successfully use them in the treatment of those infectious diseases for which we have not heretofore had a specific remedy.

A recent discovery of considerable importance from several points of view is the so-called Widal reaction. This depends upon the fact already demonstrated for several pathogenic bacteria, that during the progress and within certain limits, after the termination of a specific infectious disease due to micro-organisms of this class, a substance is formed in the blood which has a specific action upon the particular bacterium which is concerned in the etiology of the disease. The reaction consists in the agglutination of the bacterial cells in groups or masses, and in the arrest of motion in motile bacteria in recent cultures. The diagnostic value of this reaction in typhoid fever is well established, but the reaction is not always obtained during the first days of an attack, when it would be most useful. However, the scientific value of the test is undoubted and it will be of great assistance in determining the true character of atypical cases of the disease, which have heretofore so often been called by some other name. The importance of this reaction for the differentiation of pathogenic bacteria, which cannot readily be distinguished by their morphology and cultural characteristics is apparent. Therapeutics has profited greatly, not only by the scientific researches of chemists and bacteriologists, but also by those of the physiologists and physiologic chemists. Investigations relating to the internal secretions of ductless glands have shown the essential rôle which some of

these glands play in the animal economy and also the fact that pathologic changes resulting from their impaired functional activity may be relieved by the administration of extracts from corresponding glands taken from the lower animals.

The curative action of thyroid extract in myxedema is well established, and some success appears to have been attained in the treatment of Addison's disease by an extract from the suprarenal bodies. The active substance in the thyroid has been called iodothylin. According to Professor Chittenden, this substance is "a non-proteid cleavage-product of a more complex body, naturally present in the gland and characterized by containing both iodine and phosphorus." He considers it pretty thoroughly established that iodothylin "possesses all the peculiarities associated with thyroid therapy."

Abel and Crawford have succeeded in obtaining the active alkaloidal substance from the suprarenal bodies in the form of a sulphate. This in very small quantities causes a remarkable rise in blood-pressure when injected into animals, and applied locally it promptly causes a constriction of the vessels of an inflamed eye.

Let us turn, for a moment, from therapeutics to prophylaxis. Here the progress of medical science has been even more prolific in practical results. Where thousands have been saved by the timely administration of suitable medicines, or by the skilfully performed operation of the surgeon, tens of thousands have been saved by preventive medicine. And preventive medicine is to-day established upon a strictly scientific foundation. If our practice was *pari passu* with our knowledge, infectious diseases should be almost unknown in civilized countries, and those degenerative changes of vital organs which result from excesses of various kinds would cease to play a leading part in our mortuary statistics. But while our knowledge is still incomplete in some directions, and while individuals and communities constantly fail to act in accordance with the well-established laws of health and the scientific data which furnish the basis of preventive medicine, the saving of life directly traceable to this knowledge is enormous.

Smallpox no longer claims its victims in any considerable numbers except in communities where vaccination is neglected; cholera has been excluded from our country during the last two widespread epidemics in Europe and its ravages have been greatly restricted in all civilized countries into which it has been introduced; the

deadly plague of the seventeenth and eighteenth centuries is no longer known in Europe, and the prevalence of typhus (so-called "spotted" or "ship fever") has been greatly limited. Typhoid fever, tuberculosis, and diphtheria are still with us and claim numerous victims, but we know the specific cause of each of these diseases; we know where to find the bacteria which cause them and the channels by which they gain access to the human body, and we know how to destroy them by the use of disinfecting agents.

The mortality from tuberculosis is constantly diminishing in our large cities, and the complete destruction of the infectious sputa of those suffering from pulmonary tuberculosis would no doubt go a long way toward the extermination of this fatal disease.

For a long time vaccination as a means of preventing smallpox stood as a solitary example of prophylaxis by inoculation with an attenuated virus. But Pasteur and others following in his footsteps have shown us that protective inoculations may be successfully practised in several of the infectious diseases of the lower animals. Haffkine's cholera-inoculations appear to have been attended with considerable success, and recent experiments in inoculating susceptible persons with cultures of the typhoid bacillus give some encouragement to the belief that they may be rendered immune against typhoid fever by this method. That children may be rendered immune against diphtheria by comparatively small doses of the antitoxin is well established. The value of Pasteur's method of inoculation for the prevention of hydrophobia in persons bitten by rabid animals is now generally recognized by well-informed physicians.

The time at my disposal is entirely inadequate for the purpose of setting forth the present status of scientific medicine, but I trust that enough has been said to justify the claim that we are not "old-school doctors," and to show that medicine has not been behind other branches of science in taking advantage of improved methods of research and in establishing itself upon the sound basis of facts, demonstrated by experiment and observation with instruments of precision.

What has been said will also show that there is no room for creeds and pathies in medicine, any more than in astronomy, geology or botany. Every man is entitled to his own opinion upon any unsettled problem, but if he entertains an opinion in conflict with ascertained facts he simply shows

his ignorance. There is no restriction placed upon any physician who graduates from our regular schools as to the mode of treatment he should pursue in any given case. If he sees fit to prescribe a bread pill or a hundredth trituration of *carbo vegetabilis* there is no professional rule of ethics to prevent him from doing so. But if his patient dies from diphtheria because of his failure to administer a proper remedy, or if he recklessly infects a wound with dirty fingers or instruments, or transfers pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, it would appear that the courts should have something to say as to his fitness to practise medicine. There is, however, nothing in the code of ethics which will prevent him from associating with reputable practitioners. But no matter where or when he obtained his medical degree, he can scarcely be said to belong to the modern school of scientific medicine. We must not fail to recognize, however, that the progress of knowledge has been so rapid that it is impossible for the busy practitioner to keep pace with it, and that even the requirement now generally adopted by our leading medical schools, for a four years' course of study, is inadequate for the attainment of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as is desirable for one who intends to practise scientific medicine.

Bacteriology of Whooping-cough

Spengler and Davos have recently isolated a bacillus from epidemic whooping-cough cases (*Deut. med. Woch.*, Vol. XXIII, No. 97, No. 52), which resembles the Pfeiffer influenza bacillus. It is probably the same organism as that isolated by Czaplewski and Hensel, and thus forms a confirmation of these authors' researches. J.

Rumination in Man

In a lengthy paper on the above subject in the *Gaz. des Hôp.*, M. N. Larrier remarks that the mechanism of rumination does not differ from that in animals. No malformation or lesion of the alimentary canal underlies this phenomenon. The treatment depends, therefore, upon the conditions accompanying mercurism. The dyspeptic ruminant must be treated as a dyspeptic; the neuropathic as a neuropath; the latter variety is, as a rule, most amenable to treatment. Imitation often plays a great rôle in rumination in children, and must be cured by proper discipline and suggestion. S.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
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Sydenham's Chorea and Its Treatment

Dr. Moncorvo, in *Jour. de Cliniq. et de Thérap. inf.* (No. 23, June 9, 1898, p. 453) thus sums up a long series of articles on this subject:

1. Nervous and alcoholic heredities so often found in cases of chorea undoubtedly have an etiological bearing.

2. Hysteria appears to exercise a marked influence on the development of chorea, and the latter is a modification of the former.

3. Some think chorea closely related to the common infectious diseases of childhood, but the author thinks it is but a harmful condition proceeding from different potent causes.

4. The oft-averred tie between chorea and rheumatism for a long time admitted by clinicians of note such as Achalmé, Thirloix, etc., only induces the author to regard chorea as the cerebro-spinal tendency of the rheumatic affection when arising in a hysterical or neurasthenic subject.

5. The therapeutic agents recommended are antipyrin, exalgin, asaprol, and analgene.

6. In 18 to 50 days with these agents all choreic manifestations slowly disappear.

7. The cure lasts, according to the author's observation. H.

Parasitic Chyluria

A rare case of this condition is reported by T. D. Dunn (*Univ. Med. Mag.*, Vol. X, No. 7, pp.s.), the patient being a female, aged 19 years. She had enjoyed good health up to six months previous to consulting the writer, when she complained of severe headache, backache and vomiting, suppression of urine accompanying for forty-eight hours. A subsequent return of this condition, with abdominal pain and soreness, was marked by suppression of urine for sixty-four hours. Temperature 102°, pulse 112. The urine when voided was of a milky character, having a decided layer of fat on the surface and sides of the bottle. Odor was offensive; reaction alkaline; specific gravity 1.024; decidedly albuminous. The microscope showed in addition to red blood-cells and lymph-cells, oil-globules and many embryonic filariæ. The quantity of fat was 2.2 per cent., an

usually high proportion. The second passage of urine, a few hours subsequently, was nearly free of the chylous character, and later on it was clear and natural. Several attacks of the above character occurred subsequently. Upon examination of the blood several active embryonic filariæ, about one-eighth of an inch in length and the width of a red corpuscle, were found. Reference is made to the fact of there being two varieties of chyluria recognized, one non-parasitic, the result of some abnormal communication between the lacteal and lymphatic channels with some part of the urinary tract; the other parasitic in character, the Filariæ sanguinis hominis having a definite causal relationship. Regarding the discovery by Bancroft and Manson in 1878 of the embryo in the stomach of a female mosquito, acting as an intermediary host, the mosquito attacking the filaria patient at night, gorges herself with blood and then deposits the ova in water. In the human subject drinking the water the embryo penetrates the lymphatic system and there develops into sexual maturity, producing myriads of embryos. An interesting observation of Dr. Lewis, of Calcutta, showed that in eight mosquitos caught at random in his servants' house four had embryos of filariæ. The periodicity in which the embryos are found in the blood is rather remarkable, in that during the day they are almost entirely absent, they being found usually at night when the individual is asleep. If the habits of the person are changed, the patient working at night and sleeping during the day, their activity is reversed. It is noted that lymphatic tumors, lymph-sacs, in fact, the lymphatic system in any part of the body may be plugged by the embryos. The probable explanation of the disease occurring in the case above reported is that mosquitos may have been brought to our shores by vessels trading with tropical countries, since but few cases are met with in a temperate climate.

Parinaud's Conjunctivitis

At a recent meeting of the Western Ophthalmological, Otolological, etc., Association a paper on the above subject was read by Dr. H. Gifford (*Jour. Amer. Med. Assoc.*, Vol. XXX, No. 17, 1898). He said the disease was first described by Parinaud in 1889, and hitherto nine cases of it have been described in France, while in Germany and Austria the same disease has been described by Goldzicher as lymphomatous conjunctivitis. It is characterized by rapid swelling of the lids with more or less mucopurulent discharge, and the development on the folds

or tarsi or both of large rounded granulations which not infrequently are fungiform or polypoid in form. Between the granulations small conjunctival ulcers sometimes occur. Soon after, or, in very rare cases, before the affection of the lids, the lymphatic glands of the neck and face on the affected side generally become swollen and tender to a very marked degree, and suppuration not infrequently occurs. The disease is almost invariably one-sided, is apparently not contagious, and appears to undergo a spontaneous cure in the course of some months when left to itself. Treatment in the worst cases affects the disease very slowly. The cases in which the tarsal surfaces are covered with granulations might be mistaken for very pronounced trachoma, while in those where ulcers of the folds surrounded by granulation-tissue occur, the question of tuberculous conjunctivitis might be raised. The cornea is rarely, if ever, affected, and the subjective symptoms are comparatively slight. Parinaud has called the disease infectious conjunctivitis of animal origin, partly because some of the French cases were butchers or farmers, but the evidence on this point is not at all conclusive. Bacteriologic investigations as to its cause have been practically without positive results. Two of Gifford's cases were somewhat typical in so far that in one of them the swelling of the lymphatic glands was confined to a row behind the sterno-mastoid muscle, while in the other the granulations were hardly as large as usual, the most prominent conjunctival feature being the presence of numerous ulcers, mostly on the folds, but some of them on the tarsi and bulbar conjunctiva. G.

Eye-strain

Dr. Aaron Howell, in the *Medical Bulletin* (Vol. XX, No. 4), calls attention to the symptoms attending this condition and suggests the proper treatment.

The symptoms of eye-strain are pain in the temples, pain in the back of the head and neck, red eyelids, and inability to see at a great distance or to read long at a time. The eyes become tired and vision blurred; there is strabismus or cast in the eye and a tendency to avoid light. The eyes are partly closed; there are twitchings of the lid; sick headache and dizziness when shopping, riding, or attending places of amusement.

Eye-strain may cause chorea and other nervous disease. It brings on neuralgia and headache that medicines fail to cure. Nearly every condition recited above, if brought about by defective vision, or an

abnormal state of the ocular muscles, can be relieved by glasses. The fitting of glasses is, at times, a very difficult task, and should be intrusted only to a painstaking physician who thoroughly understands the different defects and diseases of the eye and is skilful with the appliances used for the scientific selection of proper lenses. U.

The Influence of the Body on Toxins

Metschnikoff, in the *Annales de L'Institut Pasteur*, Vol. X, p. 701, shows that the lower fungi, both bacteria and even such higher forms as mushrooms, can act upon toxins and convert them into vaccines without the production of any antitoxin whatever. He also states that the lower animals, (invertebrates) cannot as a rule produce antitoxins amounting to anything, especially is this so of tetanus antitoxin. He believes that natural immunity plays a large part in the process of disease, and shows, that in the case of the crocodile, in which no febrile reaction is obtainable, the resistance to tetanus is great. J.

Inequality of the Pupils Observed at an Altitude of over Ten Thousand Feet

Dr. E. T. Boyd (*Jour. Amer. Med. Assn.*, Vol XXX, No. 17, 1898) has made interesting observations on a peculiar abnormality frequently seen and in some way due to the environment of persons living at a great altitude. The author has records of over one hundred cases observed in Leadville during the past year. Anisocoria may be seen in both males and females, children and adults, regardless of occupation or manner of living. Of all the cases examined from none could there be elicited aught but negative history. All the subjects were in excellent health. The men were moderate drinkers and smokers, but few of them had visual disturbances, and in these cases the trouble was due to some minor refractive error. Rarely in these cases has the author found anisometropia, which may occasionally be the cause of anisocoria. Pupils reacted consensually, also responded normally to light; convergence and accommodation in all cases except two; the departure from normal in these cases consists in the peculiar reaction first described by Gowers, as follows: "Immediately upon exposure to light the pupils contract, light-stimulus being continued, the abnormally dilated pupils rapidly regain their former size."

In all cases in which it was possible to examine frequently the writer found that there are times when the pupils are of equal size. The exacerbation can not be associated with

excesses of any kind. In about one-half the cases seen the right pupil was the larger, while in the remainder the reverse obtained. The difference in size ranged from one-fourth to three-fourths times larger than the smaller pupil. Incidentally the author states that he has seen the same condition of unequal dilatation in dogs.

The writer believes the cause of the anisocoria to be hyperactivity of the nervous system, which is especially manifest in the cervical sympathetic. This hyperactivity stimulates equally the radiating fibers of the irides to contract, and the unequal dilatation is accounted for upon the hypothesis that there is a difference in density of the radiating muscular fibers, and it may be of the sphincters also, of the irides.

The author further believes that this tendency to excessive dilatation of the pupils is common to those living at so great an altitude, and that in cases in which we do not find the anomaly the power of inhibition is sufficient to overcome it. G.

Tobacco Amblyopia

W. B. Meany (*Jour. of Amer. Med. Assn.*, March 26, 1898, p. 721), enters protest against tobacco amblyopia. He instances that in Turkey, where both men and women use tobacco containing double the percentage of nicotine found in Havana tobacco, the so-called tobacco amblyopia is almost unknown.

Cases analyzed in 1895 by author before Kentucky State Medical Society were due directly to retro-bulbar neuritis. Symmetrical scotomata were neither diagnostic of tobacco amblyopia nor constantly present in otherwise "well-established cases." In one case the central scotoma was decidedly asymmetrical; but there was a scotoma for red and green from fixation-point to blind spot and 15° upward and downward. Inside this area he called red yellow and green white; outside of it he recognized color well. He had no scotoma for blue; frequent attacks of nervousness, but normal knee-reflexes; no albumin nor sugar. He was a regular drinker and smoker with no specific history. Alcohol was stopped, tobacco was not discontinued. Careful hygienic and medical regime soon brought about cure. Are these scotomata from toxic or structural causes? It seems as reasonable to attribute them to some mechanical obstruction to nutrition in neurotic patients as to tobacco. The presence of inflammation excited by tuberculosis, or even circulatory or vasomotor disturbances would account for the

phenomena. A shock to the nervous system from a railroad accident has been given as the precursor of a tobacco amblyopia.

The conspicuous symptoms of tobacco amblyopia are identical with those visual disturbances that arise from axial neuritis from various poisons like bisulphide of carbon. Similar lesions and visual disturbances exist in nearly all organic lesions of the brain and cord, embolism, dementia, syphilis, epilepsy, etc., so that it is impossible to be positive about tobacco amblyopia.

H.

Anatomo-pathological Differences between Primary Systemic Degeneration of the Nervous System and Secondary Systemic Degeneration

In an extensive discussion of the features found in primary and secondary systemic degenerations of the spinal cord, G. Vassale, in the *Rivist. Sper. di Fren.*, 22, No. 4, shows that secondary systemic degenerations follow as a rule some obstructive lesion which presses on the fiber-tracts and cuts them off from their trophic centers, and thus they undergo degenerations in the true Wallerian sense. On the other hand he believes that the primary systemic degenerations are always due to some exogenic or endogenic poison such as alcohol, lead, absinthe, arsenic, bacterial toxin or toxalbumin. These affect the trophic centers primarily and the nerve-fibers degenerate later. Histologically the degenerations are to be distinguished as well as etiologically. In the primary degenerations the myelin-sheaths degenerate but slowly, whereas in the secondary systemic degenerations the axis-cylinder degeneration and myelin-sheath degeneration go on *pari passu*.

Rheumatic Affections of the Heart in Childhood and Early Adolescence

J. F. H. Broadbent (*Edin. Med. Jour.*, Vol. XLV, No. 515, p. 473) remarks that although the articular manifestations of rheumatism in childhood and early adolescence are, as a rule, slight, and may be confined to fugitive pains or stiffness in the joints or limbs, with little or no constitutional disturbance, the rheumatic poison may all the time be attacking the heart and setting up endocarditis, pericarditis, or myocarditis in conjunction with one or both of the former. Owing to the insidious nature of the inflammatory process, irreparable damage may be done before the severity of the cardiac symptoms compels the patient to seek medical advice or take to his

bed. An illustration of a case in point is given, in which from the time the boy, aged 14 years, first developed some stiffness in the knees until the time of his death, a period of but fifteen weeks existed, the endocarditis giving rise to no symptoms to announce its presence until almost two months subsequent to the stiffness in the knees. Furthermore, in many cases, the early diagnosis of endocarditis often presents considerable difficulty. When present, it is exceptional for the patient to escape pericarditis. In watching the progress of a case of pericarditis, one of the most striking features to be noted is the rapid increase in the area of cardiac dulness, which takes place even though the patient is kept in bed and carefully nursed and treated. This rapid increase is due, as a rule, not to pericardial effusion, but to dilatation of the heart. In severe cases the cardiac dilatation may rapidly become extreme and the patient succumb within a few days of the first appearance of the pericardial rub, from a syncopal attack, which is sometimes associated with severe vomiting. More commonly, especially in a second attack of pericarditis, the inflammatory process seems to assume a subacute form; the pericardial rub persisting over a varying area for some days or weeks, and the area of cardiac dulness remaining unaltered, and even increasing in extent. Eventually, according to the writer, within from six weeks to three months' time, one of three things may happen.

1. The area of cardiac dulness may decrease till it is nearly normal in extent, indicating that the heart has approximately regained its normal size, in which case a satisfactory recovery may be anticipated.
2. The area of cardiac dulness may remain permanently enlarged, though the patient has become convalescent, in which case it is probable that universal adherence of the pericardium to the heart is taking place, and, though the patient recovers, the heart will be permanently crippled.
3. The area of cardiac dulness may still further increase, the liver becoming enlarged, and dropsy set in, and the patient die with all the symptoms of right-ventricle failure. As to prognosis, it seems probable that it depends in each case on the degree to which the myocardium is affected by the inflammatory process. There are certain danger-signals for which one should always be on the lookout in children or young adolescents when a suspicion of rheumatism is aroused, and one can thus recognize the subjects in whom repeated attacks of cardiac inflammation are likely to occur. These are

rheumatic nodules, small fibrous growths commonly about the size of a split pea, but sometimes as large as an almond, or even larger. They are found in the neighborhood of joints, over the olecranon or condyles of the humerus, on the margins of the patella, over the malleoli, on the finger-joints, on the sheaths of tendons; sometimes on the scalp or vertebral column, and are attached by their base to the fascia, or sheaths of tendons, or to some portion of underlying fibrous tissue. The skin over them is freely movable, and they are best seen by flexing the joint over which they are situated when the skin is rendered tense. In themselves they are painless; when present in force, danger to the heart is imminent, and repeated attacks of cardiac inflammation are to be apprehended. According to Cheadle, they are apparently serious in proportion to their size and numbers. Rarely found in adults, they are met with in children and adolescents up to the age of 19. Exudative erythematous of the type of erythema marginatum, being small raised patches about the size of a sixpence with sharply defined margins and of a dull red color; or, less commonly papular or urticarial in character, may occur in rheumatic subjects. These have an evil prognostic significance. As regards treatment, it is of the first importance that any indications of danger threatening the heart should be recognized as early as possible, and due precaution taken. The patient should be kept under careful observation and the heart examined every two or three days for some weeks. Any exposure to chill should be guarded against and exercise should be limited in amount. Where possible, children who have once suffered from cardiac inflammation should winter in some warm climate.

Treatment of Severe Influenza with Antistreptococcic Serum

Drs. Carrieu and Pelan reported the following case to the French Medical Congress (*La Méd. mod.*, April 27, 1898, p. 268): A soldier was brought to the hospital, suffering with severe influenza, which commenced with a violent chill and pain in the side. These were immediately followed by cerebro-meningeal troubles, excruciating headache, bilious vomiting, and contortions of the face. The *tache cerebrale* was very distinct, but there was no stiffness or pain in the neck. These symptoms lasted five days, when they disappeared and were followed by a pleuro-pneumonia which had a regular course and ended in resolution. A remarkable feature of the

case was the temperature which oscillated during the first ten days between 100° F. in the morning and 104° F. in the evening. Malaria was thought of, but persistent treatment with hypodermic injections of quinine failed to produce any change. Nor did antipyrin have any effect on the temperature. A bacteriological examination of the sputum showed the presence of numerous streptococci, and the fever was then ascribed to a streptococcic septicemia. Marmorek's serum was injected—20 cc. (5 dr.) each time—and after four injections the temperature was reduced to normal. The patient recovered completely. The recovery in this case, the authors say, may well be put to the credit of the antistreptococcic serum. R.

Treatment of Dysmenorrhea

Dr. Skene Keith says (*Therap. Gaz.*, Vol. XXII, p. 273) that in the way of prophylaxis nothing is so important as to keep the feet warm. Great attention should be paid to this point, and if a growing girl shows a tendency to cold feet, she should be dressed warm and have a hot-water bottle at her feet at night. The general health should of course be attended to. Exercise in fresh air and the avoidance of too exacting lessons are important. As soon as the menses make their appearance, if the girl shows any symptoms of dysmenorrhea, she is to be kept constantly in bed and not allowed to get up until the pain is entirely gone, and the flow is either over or almost so. A large poultice should be kept over the abdomen, as long as there is any pain. A saline draught at the commencement, with a mild diaphoretic and a small dose of potassium or sodium bromide will prove very serviceable.

When the dysmenorrhea has lasted for some years, this general treatment will not often effect a perfect cure, but it should nevertheless be tried in all cases, where the pain is not very severe, for six months or a year; and it should be explained to the patient, that this treatment is not meant as a temporary relief only, but is expected to cure permanently. Little difference exists as to the general treatment of such cases, but the opinions as to the local treatment vary very greatly. Some recommend the use of stem-pessaries; some advocate dilatation, slight or great, with or without curetting; and some say the best results are obtained by lateral or posterior division of the cervix. The author highly recommends a modification of the last method, namely, posterior division of the cervix with stitching. This modification

makes such a great difference in the results that it is practically a new operation. What is aimed at, may briefly be described as the straightening out of the uterine canal, and the healing of the cut surfaces by first intention, so that there will be no hard tissue, or any possibility of the old bend returning. The most essential part of the operation is the accurate stitching together of each half of the wound made when the cervix is divided. Performed with the uterus in its natural position—i. e., without drawing the cervix to the outside—with the aid of a Sims' speculum three-quarters of an inch across, it can be done without rupturing an ordinary hymen, but it is not an operation to be undertaken by those who have not the required dexterity. By this operation, the author says, nothing is left to chance, and unless the cuts do not heal, the cervix remains permanently in the position and of the shape it is left at the time of the operation. All the cases he has operated on in this manner have been cured or improved; not only as regards the dysmenorrhea was the effect good, but also as regards the general health. Where an operation is absolutely refused, electricity by Apostoli's method will do good. R.

Treatment of the Various Forms of Headache

In all cases the etiology must be established, if possible. In the ordinary form of sick headache, antipyrin is one of the best remedies at our disposal says Dr. Hirtz (*Jour. des Prat.*). The dose varies greatly, according to the peculiarities of the individual, some persons are relieved by a dose of four grains, others require fifteen grains, in still other cases as much as thirty or even forty-five grains may be required before relief is obtained. Of course, the patient should be warned against the abuse of the drug, as dangerous symptoms of true poisoning may occasionally arise. Antipyrin is better borne by the stomach when combined with 0.5 (8 grains) of sodium bicarbonate. Where the condition of nausea is too severe, it may be administered hypodermically, or per rectum, combined with a few drops of laudanum. If antipyrin fails to give relief we can have recourse to a long list of other drugs. Four grains each of caffeine and of sodium benzoate act very well, and the dose may be repeated every two hours until four doses have been taken. The same dose, dissolved in distilled water, may be injected hypodermically. Then we have acetanilid; this should be given in doses of three to four grains, five or six times a day. Do not exceed 30 grains a day.

Phenacetin is a much safer drug, the author says; it is almost non-toxic and but very seldom will cause eruptions or irritation of the stomach (as antipyrin will). It should be given in doses of five grains four or five times a day. Exalgine gives good results in trifacial neuralgia, but its effects in sick headache are uncertain; the dose should never be more than four grains. Lauder Brunton recommends a combination of sodium salicylate with potassium bromide; twenty-four grains of the former, combined with forty grains of the latter, may be given in four divided doses. Methylene-blue has lately been used with great success by various investigators; it is recommended especially in that form of sick headache called angiospastic. It is best prescribed as follows:

Methylene-blue (C. P.) ... 0.1 (gr. jss)
Powd. Nutmeg 0.1 (gr. jss)

Make one capsule. S.—One capsule 4 times a day.

Migrainine, which is so highly recommended by Schumann, is a combination of antipyrin, caffeine, and citric acid. Guarana owes its effect to guaranine, which is identical with caffeine. It may be given in doses of 8 to 30 grains. Sometimes, when all the enumerated drugs fail, aconitine proves successful. It is prescribed in the form of globules, each globule containing 0.00025 gme. (1-250 grain). Two such globules may be given daily.

Seguin, who taught that headache was very frequently due to errors of refraction, advocated the use of mydriatics and the correction of defects by proper glasses. Internally, he gave the extract of cannabis indica, 0.012 gme. (1-5 gr.) 3 times daily; the dose was gradually and cautiously raised to 3 grains. During the painful stage of ophthalmic sick headache, the same treatment as in common sick headache may be employed; but as this form is often associated with neurasthenia, hysteria, epilepsy, etc., we must not fail to administer bromides in the interval, as recommended by Charcot and Fere. Potassium or sodium bromide, or a mixture of several bromides, should be given in doses of 30 to 90 grains daily. One of the most intractable forms of sick headache is the ophthalmoplegic form. During the painful stage the usual remedies may be employed, but the paralytic form frequently resists all treatment, and this may be explained, the author says, by anatomical and pathological changes. Subler found in one case the oculo-motor nerve surrounded by an abundant exudation; in a case of Weiss' the nerve was buried in tuberculous masses; in another

case the nerve was pressed upon by a fibrochondroma. Nevertheless, in all such cases the iodide and bromide treatment should be tried, and locally powerful counterirritants should be used: blisters, the cautery, or even the seton. In the intervals the patient should be put on a strict diet, and alcoholic drinks, even in the smallest doses, should be proscribed absolutely. In fact, total abstinence is requisite in the majority of cases before a cure can be expected. As a prophylactic measure, Dr. Debout recommended a pill containing 1-2 gr. of quinine sulphate and 5-6 of a grain of digitalis to be taken every night for a period of several months.

Rheumatic or gouty subjects are put upon a strict diet; no nitrogenous nor indigestible vegetable food is allowed at night; in the morning a glass of Carlsbad water heated to 40° C. (104° F.), or vichy water, is taken, and at night one pill of the following composition is taken:

Ext. of Aconite	0.1	(1½ gr.)
Ext. of Digitalis ...	0.2	(3 gr.)
Ext. of Colchicum..	0.2 to 0.4	(3 to 6 gr.)
Quinine Valerianate	1.0	(15 gr.)

Divide into ten pills.

For neurasthenic headache the best treatment is: Country life, moderate muscular exercise, and freedom from professional occupation. Among remedies the most useful ones in this class are: The phosphates, or better, the glycerophosphates, arsenic in small doses (1-16 to 1-8 grain a day), or strychnine arsenate in doses of one milligram (1-64 grain) two or three times daily.

In appropriate cases hydrotherapeutics, static electricity, and suggestive treatments are very useful. R.

The Treatment of Hoarseness in Singers and Public Speakers

According to Dr. F. A. Bottome (*Laryngoscope*, June, 1898), public singers frequently become hoarse due to the fact that they are constantly exposed to sudden variations of temperature in going back and forth between the dressing-room and stage. In treating these cases it is not desirable to employ local treatment in the early stage. To relieve the congestion the patient should be given a hot mustard foot-bath and put to bed. After a dose of ten grains of calomel, aconite should be given up to the physiological effect, and a Leiter's cold coil should be applied externally. The throat may be sprayed with some soothing application, such as albolene. The patient must not utter a word, making his wants known

by writing. After twenty-four hours or more of this treatment there should be decided improvement. It is then proper to resort to the use of tonics. This author's preference is the tincture of the chloride of iron, in doses of half a drachm in glycerine and water, administered after meals. It should be continued three times daily in increasing doses for a number of days. If the larynx is still generally congested, nitrate of silver (ten grains to the ounce) may be applied as a spray. There is frequently only a narrow line of congestion visible along the edges of the cord, and then a solution of menthol (one drachm to the ounce of albolene) should be applied to the cord with a probe. The patient is by this time usually so much better that he is anxious to try the voice. This should be done very gradually in the middle register only, going up and down the scale. The patient should be infused with a large degree of hope and given as much confidence as possible at the time regular singing is resumed. It is well to make a local application between the time of singing, or see to it that the body is well rubbed down with alcohol.

The sudden accumulation of mucus upon or between the vocal cords is a common cause of hoarseness or of a sudden "breaking" of the voice, even in singers apparently in excellent condition. The treatment consists of deep inhalation of menthol dissolved in albolene, using a globe inhaler, together with the use of the same solution in a hand-atomizer by the patient just before singing or speaking, so as to prevent the dislodgment of the mucus from other parts and its deposition on the vocal cords at this time.

G.

The Treatment of Enuresis

In an article in the *Therap. Gazette* (Vol. XXII, No. 4, p. 220) Dr. Crawford has attempted to introduce order into the therapeutic chaos which is hanging about the subject of enuresis. We must, of course, always try to find the cause. Where anemia is present, some light preparation of iron in conjunction with nux vomica often succeeds. If a rheumatic diathesis is established—and the author has been struck with the frequency with which rheumatism either in the parents or child is associated with enuresis in the latter—the salicylates should be given a trial, but not to the exclusion of iron. Removal of adenoids has several times resulted in the author's hand in a perfect cure of the enuresis. Tea in the evening should be proscribed, and the state of the alimentary canal watched, as

enuresis, like convulsions, may often be traced to some digestive derangement. Belladonna is a valuable adjuvant remedy, but it will be in vain to expect from it specific virtues. Where belladonna alone fails, belladonna and iron will often succeed. Belladonna the author gives in large doses; he commences with 10 to 15 drops of the tincture 3 times a day for a child of 4 to 5 years, increasing weekly by *five* drops to *each dose*, till there is some sign of improvement or of physiological reaction. The U. S. P. tincture is 15 per cent., while the British is only 5 per cent. strong.

After the belladonna has had its favorable effect, it is of the utmost importance not to stop it abruptly, or a recurrence of the habit is almost certain to take place. When weakness of the sphincter of the bladder is superadded to irritability of the muscular coat, no combination is so beneficial as that of belladonna and nux vomica; it often acts like magic. Ergot and rhus aromatica are inferior to nux vomica, but may be prescribed in conjunction with it. As regards the interrupted current, the author can offer no opinion, never having employed it in this disorder. High acidity of the urine is a well-recognized condition in enuresis, and where it is present, a few drops of liquor potassæ should be given with belladonna, until the urine shows a neutral reaction. The amount of water should never be cut down; on the contrary it should be given freely to diminish the concentration of the urine; or instead of it milk might be supplied, it being one of the best diuretics. Phimosis should be relieved, either by simple dilatation of the orifice, or, in exceptional cases, by circumcision. The author is not in favor of this latter operation, as he has seen more than one case of enuresis that had dated definitely from circumcision. Occasionally, masturbation may be a causal factor; the application of cocaine to the hypersensitive part of the urethra and the daily passage of a catheter do good in those cases. The bromides may also be indicated.

R.

Danger of Error in Diagnosis between Chronic Syphilitic Fever and Tuberculosis

At the recent meeting of the Association of American Physicians, E. G. Janeway (*Mary. Med. Jour.*, Vol. 39, No. 6, pp. 574) briefly reported a number of cases of the above. One was that of a young man who had been sent to a sanitarium for consumption. He continued to grow worse and an examination by Janeway revealed syphilis. No tuberculous symptoms could be

found, and hepatitis had been the cause of his ill health. He promptly recovered under appropriate treatment. In another case there were fever, sweating, and pain in the side, and on account of a supposed condition of tuberculosis he had been advised to go to the country; a later examination showed two ribs to be diseased and a small sinus apparent. Antisyphilitic treatment removed this trouble. Several cases of this kind were referred to; one in which a prominent physician had made a diagnosis of tuberculosis when no such lesion existed. The case of a child was instanced where Janeway suspected syphilis, but was persuaded into believing it a case of tuberculosis, and sent it to the hospital for treatment. The child died and the autopsy revealed the true condition. In obscure cases of apparently tuberculous miliary sepsis, syphilis, according to Janeway, should always be borne in mind as the possible cause.

L.

Historical and Experimental Studies on *Bacillus Prodigiosus*

In the *Arch. f. Hygiene*, Vol. 26, Scheur-len gives a complete historical and bacteriological résumé of our knowledge of *Bacillus prodigiosus*. It is the cause of an infectious disease comparable to typhoid and cholera. It is a bacillus provided with cilia along its sides. Its coloring matter is poor in nitrogen. It contains from 14 to 16 per cent. of mineral matter, about 11 of hydrogen, and about 72 of carbon. Its spectrum shows a large band immediately in front of line E. As a product of its destructive metabolism it forms methylamine, ammonia, coloring matter, formic and succinic acids. It is incapable of fermenting sugar.

J.

Apoplexy—Its Treatment

On clinical grounds, M. J. Grasset (*N. Y. Med. Jour.*), advises making use of the word apoplexy in the old sense, symptomatic, and not making it synonymous with cerebral hemorrhage. Apoplexy, he says, is a syndrome connected with other material lesions besides cerebral hemorrhage, and, like all syndromes, it must be specified by its clinical characters.

Apoplexy is the sudden cessation of the cerebral action produced by a spontaneous alteration, organic or functional, of one or more parts of the brain, with preservation of the respiration and the circulation. The principal cerebral alterations which may produce apoplexy are the following: Cerebral hemorrhage and, less frequently, meningeal hemorrhage; softening, either

from thrombosis or from embolism; the cerebral congestion which is often observed in cerebral tumors; progressive general paralysis; disseminated sclerosis; the cerebral edema of the type observed in uremia, and finally the nervous, dyscrasic, and toxic apoplexies. The classification of apoplexies based on the nosological species are arthritism, alcoholism, syphilis, paludism, hysteria, etc. If, says M. Grasset, no rational treatment is found to combat the clot in cerebral hemorrhage, or to combat the necrobiotic condition of the cerebral substance, it does not signify that there is nothing to combat the apoplexy itself and the ictus, which may disappear in spite of the persistence of the clot or of the seat of the softening. While it is admitted that the initial lesion is beyond therapeutic aid, a rational and useful treatment of the apoplexy may be instituted.

There is no prophylactic treatment for apoplexy in general, but there is for the various forms, such as uremic, alcoholic, arteriosclerotic, syphilitic, or paludal apoplexy. Whatever may be the pathogenic theory regarding apoplexy, it is essentially characterized by a congestive condition of the head and by circulatory erethism.

Revulsion in all its forms should be employed to combat this congestion. Preference is given to the local revulsives, that is to the application of leeches behind the ear, to the arms. Phlebotomy is not indicated unless there are internal circulatory erethism, general turgescence, and a vibrating pulse.

Purgatives may also be used as revulsives, and, if the patient is able to swallow, from two to four capsules containing four grains of calomel may be given in milk, or, every fifteen minutes a teaspoonful of the following mixture:

Croton-oil	gttj
Castor-oil.....	
Expressed Oil of Almonds.....	a. a. ʒj
Syr. of Lemon.....	ʒij

M

If the patient has difficulty in swallowing, or is not able to swallow at all, enemata containing glycerin and from two hundred and twenty-five to four hundred and fifty grains of sodium sulphate in a decoction of a hundred and fifty grains of senna should be employed.

The third group of revulsives comprises the cutaneous ones, such as mustard plasters, aseptic compresses soaked in hot boric acid solution, etc. Blisters should be very prudently employed, and preference given to those of ammonia or chloral.

This revulsive treatment may be supple-

mented by cold applications on the forehead or on the top of the head. These applications, however, must not be too cold and must not be interrupted suddenly.

In addition to the revulsive treatment there are often, in apoplexy, indications for stimulation and sustenance. If, therefore, the patient is able to drink, the following potions may be employed alternately:

Ammonium Acetate grs. lxxv
Tincture of Canella m. xlv
Syr. of Orange-flowers f3j
Linden-water f3iv

Caffeine
Sodium Benzoate a. a. grs. xxx
Simple Julep 3iv

If the patient is unable to swallow, and the indication is urgent, hypodermic injections must be resorted to; from one to five or ten cubic centimeters of ether may be injected in twenty-four hours, and from two to four or six cubic centimeters of the following mixture every day:

Caffeine
Sodium Benzoate a. a. grs. xxx
Boiled Water 3ijss

Or else the following:

Camphor 3ijss
Sterilized Olive-oil f3ijss

The room should be kept thoroughly aired, and the patient should not be allowed to see many persons. Great cleanliness should be observed. The bladder should be watched and catheterism practised if it is necessary; the production of eschars should also be watched.

As a diet, we may give milk and bouillon if the patient is able to swallow. A small quantity of a decoction of cinchona, granulated kola, or, in certain cases, a little alcohol (from an ounce and a half to two ounces of cognac, kirsch, rum, or char-treuse) may be given. S.

Our Present Knowledge of the Supra-renal Capsules and Their Functions

The result of an inquiry into the subject of the suprarenal capsules and their functions, extending over a period of several months, in the Pharmacological Institute of the University of Berlin, is given by Radziejewsky (*Med. Press and Circ.*, Vol. CXVI, No. 9, p. 225). After describing their anatomy, their connection with the sympathetic, and the remarkable collection of pigment in them, he refers to the trouble met with in determining chemically the active substance which, as basal element and active agent, was contained in the pigment. As Otto V. Fürth had done

earlier, he discovered a red-brown crumbly mass, which, as regarded reagents, resembled pyrocatechin, but which, on account of typical variations, was quite distinct from it. The extract, by exciting the cardiac motor ganglia, produced an eminent increase in blood-pressure, but no subsequent paralysis, as digitalis did, and even after large doses of chloral hydrate or chloroform, cardiac activity could be completely restored by it. The extract had a simultaneous contracting action on the peripheral vessels which was strikingly noticeable on local application. Further experiments showed it to be more powerful than any other in rendering mucous membranes bloodless; it does not set up subsequent congestion, does not irritate, does not produce disturbances of accommodation, nor drying of the corneal epithelium. It is useful in differential diagnosis, and for cosmetic purposes. It facilitates the action of atropine, eserine, and cocaine. The writer looks upon the muscular weakness of Addison's disease as a result of a constrictive anemia of the vessels of the sympathetic.

L.

Dont's for the Treatment of Pneumonia

Dr. Thomas J. Mays, in the *Philadelphia Polyclinic* (Vol. VII, No. 19), gives the following list of what *not* to do in the treatment of pneumonia:

Don't believe that acute pneumonia is a self-limited disease and will get along as well without treatment as with it.

Don't hug the delusion that fever in any degree is a benefit to the patient.

Don't fancy that you can always tell croupous from catarrhal pneumonia.

Don't allow pain in the abdomen to draw your attention away from the chest. Frequently the beginning of pneumonia is accompanied by severe pain in the right groin, which may lead one to suspect the onset of typhoid fever.

Don't direct your treatment more towards the heart than towards the lungs.

Don't fail to recognize the great influence of the brain and nervous system.

Don't lose sight of the serious indication of rapid and laborious breathing.

Don't be afraid of applying ice to the chest in rubber bags. It will do no harm.

Don't fail to apply as many bags as are necessary to cover the area of inflammation.

Don't think that you can get as good results from a tub-bath or from cold general spongings, as you can from the local application of ice.

Don't become alarmed when the ice pro-

duces a sudden drop in the temperature and think the patient is going into collapse.

Don't fail to retain the ice so long as fever is present, and resolution has not taken place.

Don't omit to apply one or two ice-bags to the head.

Don't overlook the beneficial influence of strychnine in combating pneumonia. Administer 1-20 of a grain by the mouth every three or four hours, and besides give the same dose hypodermically once or twice a day, until the system becomes irritable.

Don't omit the hypodermic injection of 1-4 of a grain of morphin once or twice a day to secure rest and sleep.

Don't fail to administer oxygen by inhalation more or less constantly if the patient is cyanotic or short of breath.

Don't fail to bleed if cyanosis and dyspnea are not relieved by oxygen inhalation.

Don't lose sight of the great value of tincture of capsicum in relieving great nervous depression, delirium, dry black-coated tongue, picking at the bed-clothes, etc., give it in from a half to one teaspoonful doses in water every two or three hours, or oftener, in alcoholic pneumonia.

Don't fail to give sodium salicylate, ammonium acetate, potassium acetate, and potassium citrate, three grains of each, in a dessertspoonful of peppermint-water, every three or four hours, if there is the least evidence of a rheumatic complication.

Don't overlook the important action of quinine in this disease.

Don't fail to support the patient with an abundance of nourishing food, such as milk, freshly expressed beef-juice, etc.

U.

Directions to a Genito-Urinary Patient

In the *American Journal of Dermatology and Genito-Urinary Diseases*, April, 1898, Dr. Ferd. C. Valentine gives some useful directions for the management of genito-urinary cases.

The first organs considered are the testicles, which should always be supported by a suspensory bandage until the disease is cured. This bandage should be of good material, preferably silk, and fit so as not to cause discomfort to the patient.

The next is the foreskin. A piece of absorbent cotton soaked in a bichloride solution (1-6000) should be placed over the entire glans after each urination. When this cotton is removed it should be burned or thrown away and not replaced over the glans.

He condemns the use of gonorrhea-bags, condoms, etc.

Next he recommends irrigation and not hand-injections.

The general directions are for the physician and patient both, to thoroughly wash the hands before and after each handling of the genitalia. To warn patients of the danger to the eyes from infection from gonorrhoea pus. To prohibit the habit of milking the urethra after the gonorrhoea is cured. To instruct the patient not to urinate at least within two hours before visiting the physician. To provide for the careful examination of the morning drop. Instruct your patient that floaters are not evidence of disease. That all carbonated drinks (vichy, seltzer, ginger-ale, soda-water, sarsaparilla, etc.), commonly supposed to render the urine bland, are irritants to the genito-urinary organs.

W.

Specific for Puerperal Septicemia

Dr. J. P. Collins, in the *Medical Brief* (Vol. XXVI, No. 5), says that chlorate of potash is an absolute specific for puerperal septicemia.

He gives a tablespoonful of a saturated solution every four hours until peculiar odor disappears, then every six hours.

In malarious districts quinine should also be used.

U.

On the Action of the Rennet-ferment

The rennet-ferment has been extensively studied, but is still little understood. In *Plügers' Archiv*. (Vol. 69, p. 141) G. Lörcher gives an extended study of its characteristic reactions to various agencies. When acted upon by alkalies, alkaline fluorides and oxalates the ferment is checked. Both the carbonates and bicarbonates have a similar though less energetic action. Sodium chloride aids the coagulation of the milk in infected samples. Alkalies destroy the ferment when the amount of ferment is small and the amount of alkali is great or strongly concentrated. Acids also destroy it. The action of the ferment is manifest between temperatures of from 50 to 140 F. It is destroyed by heat for 10 minutes between 140 and 176 F. Rennet exists in the form of a zymogen.

J.

On Intestinal Fermentation and Tuberculous Meat

Kutscher, *Arch. f. Hygiene*, Vol. 27, shows that dogs, if they are fed on meat derived from a source which is known to be tubercular, develop a high grade of intestinal putrefaction, while if fed from the meat of non-tubercular animals no such grade of putrefaction results.

J.

SURGERY

GEORGE B. WOOD, M.D.

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Operative Wounds of the Thoracic Duct

Dr. Harvey W. Cushing (*Ann. Surg.*, 1898, XXVII, 719-728) has been able to collect reports of seven cases of this rare injury from literature, and to these adds two more which occurred at the Johns Hopkins Hospital. His own case occurred during a secondary operation for removal of cancerous glands in the neck. In this case Dr. Cushing succeeded with the use of a delicate curved needle in entering the wounds in the chest.

As a rule the thoracic duct lies beyond the reach of operative injury. The most important anomaly from a surgical standpoint is an arching of the duct high up into the neck.

As regards the prognosis of injury of this important viscus, it seems experimentally proven that ligation or division of the duct is either immediately fatal or productive of mortal pathological changes.

The treatment of injuries to the thoracic duct occurring during operation, may be summed up as follows:

"When working near the duct all visible lymphatics should be tied."

"If the duct itself is injured, suture is the ideal method." If this is impossible and the duct wounded seems to be the main branch, a provisional ligature should be applied and the wound tamponed with gauze. If the leakage should become uncontrollable and threaten starvation, the provisional ligature should be tried. T.

Abdominal Hysterectomy

In relating the various gynecological procedures practised in France, Dr. Caldwell (*Jour. of Am. Med. Assn.*, Vol. XXX, No. 16, p. 928, 1898) gives also the mode of performing abdominal hysterectomy adopted by Richelot.

The patient is put in the Trendelenburg position. [On the back with body and thighs at an angle of 45° and the legs hanging over the edge of the table.] The incision in the abdominal walls is made large enough to deliver the uterus easily on the outside. The uterus is caught and raised well up by an assistant, at the same time a wide retractor that will spread the parts well asunder is put in at the lower angle of the incision. An incision is now made laterally through the serous and cellular tissue of the uterus at its an-

terior aspect, some distance above the bladder. After separating the tissues with the fingers, down as far as the cervix, two clamps are put on the broad ligaments, side by side, and incision made between these clamps. The structures on the sides are now clamped and cut away until the uterine artery is reached; this is then caught with a small pair of forceps, drawn upward and cut away from its attachment to the cervix. The uterus is now tilted backward and by dissecting from above downward, keeping close to the neck of the uterus, the anterior aspect of the cervix is separated from its vaginovesical attachment and thus the whole anterior aspect of the uterus is freed. The uterus is tipped forward and the tissues are divided at its posterior surface laterally, as done anteriorly, and dissected down behind until the vagina is reached as before. Now the vaginal opening in the floor of the pelvis is sewn up and the flaps of serous tissue, peeled from the sides of the uterus, are united by means of catgut-sutures. When the operation is done the floor of the pelvis is one continuous even surface with nothing to show that it had ever been disturbed, excepting the line of union between the two sutured serous membranes. S.

Gunshot Injuries in the Late Græco-Turkish War, with Remarks on Modern Projectiles

H. J. Davis (*Gaillard's Med. Jour.*, Vol. 68, No. 5, p. 265) refers to examples of projectile wounds seen while serving in the late Græco-Turkish war. Bullet-wounds usually result in fracture of bones, any breach of surface being of necessity a compound fracture. It is, moreover, the most unfavorable form of any kind of bone-injury, for (1) the wound is an infected one; (2) it is devoid of drainage owing to the long sinus left by the track of the bullet, and (3) the hygienic surroundings are invariably bad. Practically only three kinds of rifle-cartridges were employed in the war, the Greeks using the Le Gras French rifle with a Chassepot lever-action, while the Turks used both the Martini-Henry and the German Mauser magazine-rifle. All the bullets extracted at the English hospital at Chaleis proved to be Martinis, with the exception of two Le Gras. Not a single Mauser bullet was found, nor were any extracted at the English hospital at Athens. As a great many men were perforated in the part struck by the ball, and were not completely incapacitated, and as it is known that the velocity of the Mauser is something terrific, being effective up to 4000 yards, it is reasonable to assume that this

bullet perforates the part struck, including perhaps the bone, and does little damage compared to the Martini, which, when it strikes a bone, such as the femur, fissures and splinters it in all directions. Shrapnel and common shell were employed by both combatants, the former consisting of round iron bullets surrounded by the shell-casing, doing little harm in this campaign. The immunity from injuries due to shrapnel-fire, the writer explains as follows: In common shell there is a bursting charge of powder in the base; on impact a needle in the cone is driven against the percussion-cap and the shell explodes, the fragments being scattered in all directions, radiating from the center. As for shrapnel, the bursting charge in the shell is ignited by an adjustable time-fuse, and is only just sufficient to release the bullets from their casing, and they fly straight on, their powers of damage depending not on the bursting charge, but on the momentum of the shell at the time of explosion. The Greek infantry preferred not to expose themselves to the Turkish shell-firing, and hence their comparative immunity. The shrieking of bursting shrapnel, caused by the released bullets whistling through the air, has a very demoralizing effect on troops, even if few or none are hit. The point that struck the writer most was the comparatively little damage done by rifle-bullets; in the majority of wounded men the ball passed straight through the part struck, leaving a tiny bluish-black hole at each end, resembling a magnified leech-bite wound of about three days' standing. In most cases it was impossible to tell by the appearance of the wounds which was the hole of entry and which that of exit; the patient himself could rarely say, and it was only by ascertaining his position when struck that this could be determined. Some of the edges of the entry-wounds were inverted, and some, especially the oblique wounds, were round and gaping. The wounds of exit in many cases seemed the same as those of entry, a few, however, having everted edges. Superficially, the wound is nearly always smaller than the bullet producing it. When hit, the wounded man experiences the sensation of a sudden heavy blow. If wounded in the head, trunk or lower limbs, he collapses and sinks to the ground, turns pale, sweats, and often vomits. This may be due to the mental shock, or the consciousness that he has at last succumbed. The ball rips through the tissues, carrying in pieces of cloth or other foreign bodies, leads to suppuration and the formation of a troublesome sinus, requiring

the continual "tinkering" which is characteristic of these wounds. The writer asserts that the Lee-Metford and other modern bullets have so high a velocity that at close quarters pieces of cloth, etc., are not carried before the bullet in its track. This is especially pointed out, as it means that the severity of the wounds as regards infective processes is thereby diminished. Another point, and that a difficult one, was to tell at a glance whether a fracture existed or not, this being due to the fact that there is not a complete solution of continuity of bone, and as the fracture is due to direct violence very little displacement arises. This has been observed in many instances. Some interesting facts regarding bone-injuries are mentioned, especially noticeable being the rapidity with which wounds of the upper extremities, and severe ones, too, such as compound fractures of the humerus, healed compared to corresponding wounds of the lower limb. Some cases of fractured radius practically healed under a scab, in one case there being no exfoliation of bone whatever. Heel- and ankle-injuries did badly. Unless the fracture was keyhole, there was nearly always comminution, by which is meant secondary fractures at the seat of injury. The bullet-injury, apart from the inflammation set up at the seat of fracture, may result in osteitis or even in periostitis. Instances are related of wounds of joints, especially of the knee-joint, in which suppuration did not occur, the patients doing well in a very short time. In two cases of chest-injury, the ball perforated the lung, pleura, diaphragm, and injured the liver; pleurisy, pneumonia, diphtheria, and eventually a biliary fistula in the axillary line about the level of the fourth rib resulting in one case. In the second, the bullet, a Martini was found by X-rays in the lung; pneumonia, pleurisy, hemorrhage into the pleura, and empyema rapidly supervening, the chest being first aspirated and then a portion of the rib excised. Both cases convalesced. Pelvic and abdominal wounds were very serious and a frequent cause of pyemia. L.

First Removal of the Stomach in America

Dr. J. M. Baldy (*Am. J. S. & Gyn.*, St. Louis, 1898, X, 157) claims to have antedated by some years, Schlatter, of Zurich, as regards the removal of the stomach. The operation took place at the Polyclinic Hospital, Phila., Sept., 1893. This case was as follows: There was an irregular, rounded, nodular and solid tumor filling the whole of the abdomen from the pubes to the ensiform cartilage. After care-

ful study of the case a diagnosis of malignant neoplasm of the omentum was made and operation decided upon. Before the operation it was not thought possible that the stomach could be a possible source of origin, because of good digestion and the absence of gastric or intestinal disturbances of any kind. At the operation the tumor slipped out through the incision, and in so doing tore through numerous vessels in the omentum, causing such hemorrhage that the operation now begun had to be finished at all hazards. The case finally became so desperate that it was decided to remove only a portion of the tumor which would allow the operator to check the hemorrhage and close the abdomen. On endeavoring to go through the growth, the operator's fingers suddenly slipped into the cavity of the stomach, and it was then for the first time realized that "the tumor was the stomach." Dr. Baldy then says: "I accepted the inevitable at once, continued my dissections, and removed all the mass, and quickly ligating bleeding points, made an effort to form a pretense of a stomach of the small piece remaining of cardiac end, esophagus and gut, and closed the wounds. The patient lived about 36 hours, complaining of both hunger and thirst." T.

Trigger-finger (Digitus Recellens)

Dr. David Reisman in the *Philadelphia Polyclinic* (Vol. VII, No. 13) reports a case of digitus recellens and gives a careful resumé of the literature of the subject.

Trigger-finger is a rare and annoying affection, characterized by a sudden locking of the finger when it is flexed or extended to a certain point. The finger thus locked cannot be further flexed or extended without a powerful voluntary effort, and frequently not without the aid of the other hand. The forcible overcoming of the resistance is usually attended by a distinct, audible snap.

Trigger-finger is considerably more frequent in the female than in the male sex, and usually involves but one finger, the middle finger being the seat in over one-third of all cases.

Schmit pointed out the interesting fact that the disease was common in seamstresses, embroiderers, knitters, and mattress-makers, and he attributed it to functional overuse of the fingers.

Dr. Riesman's case was probably of nervous origin, the part affected being the little finger. The present case presents nothing of peculiar interest except possibly the pronounced acroparesthesia, accompanying the condition.

The prognosis of trigger-finger is on the whole good, and a considerable number of recoveries is on record. The treatment generally advised is the application of iodine, electricity, massage, passive motion, and fixation of the finger by means of a splint. Inveterate cases have been treated by operation, which usually consists in removing whatever obstacle to free movement exists. If an underlying cause, like rheumatism or gout, is ascertainable, proper general treatment is of course to be instituted. In cases accompanied by pronounced paresthesia phenomena, the use of ergot may be tried. U.

Surgical Treatment of Acute Rheumatic Arthritis

In the *Annals of Surgery* (Feb., 1898), Dr. John O'Connor gives his experience with operative interference in acute rheumatism.

The first case cited was of a man who had an attack of acute rheumatism of both knees. The appropriate anti-rheumatic remedies failing to relieve, the patient was put under an anesthetic, the knee-joint opened and four ounces of greenish, turbid, flocculent serum was removed. The joint was thoroughly irrigated with a 1 to 5000 biniodide lotion, a drain inserted, and the leg dressed.

Two days later the swelling had disappeared, there was no pain on palpation, and in 16 days the wound was healed.

Another case of gonorrheal arthritis which was treated in the same way resulted in a complete cure in 17 days.

The treatment seems rather heroic, although the end seems to justify the means; and as the doctor says in conclusion, the fact of the matter is that when we meet with a decoction of staphylococci we rush to operate; but when we encounter a decoction of gonococci or rheumacocci we nostrumize, because we entertain some fears of merely opening and draining a non-purulent joint. W.

Cupric Electrolysis in Laryngeal Tuberculosis

Dr. Scheppegegrell (*Med. Record*, Vol. 51, No. 22) says that the surgical treatment of laryngeal tuberculosis—by curettement and subsequent application of lactic acid—is unsatisfactory, as it is painful, the hemorrhage is sometimes quite severe, and edema occasionally follows. Galvano-cautery, though free from these disadvantages, requires such great manipulative skill, that some of the most prominent laryngologists have advised against its use. It has been

the author's desire to find a method which would be conservative, not especially difficult to carry out, and if possible, applicable in all cases of that grave disease; also one that should not be painful, followed by little or no reaction, devoid of hemorrhage and should not expose the parts to reinfection from the tuberculous expectorations. Cupric interstitial cataphoresis the author believes to be such a method.

He uses spherical electrodes of pure copper, one-eighth to one-fourth inch in diameter, attached to an insulated handle. These bulbs connected with the positive pole, are applied directly to the tissues and a current of two to five milliamperes used for 3 to 10 minutes, the seance being repeated every two or three days. A dispersing electrode connected with the negative pole is applied to the back of the neck. The copper in contact with the tissues is electrolyzed and the copper oxychloride produced passes directly into the tissues. It possesses marked germicidal properties and stimulates the tissues to a healthy reaction.

The author has found the following advantages from the application of cupric electrolysis:

1. There is no real destruction of the tissues, and no laceration of the surfaces which might form a point of entrance for new pathogenic germs for reinfection. The cure is effected by the reaction of the tissues in the same manner that we often see specific lesions heal when the system is under the influence of mercurials.

2. In the cases which he has treated with this method there has been absolutely no reaction or hemorrhage following the application—a point of great importance with tubercular patients.

3. This method does not demand the high degree of manipulative skill required for curettement and the electro-cautery in the larynx, and is especially simple when direct laryngoscopy can be used.

4. This method is applicable to all cases of laryngeal tuberculosis.

Hara-Kiri

Dr. Richard H. Harte (*Ann. of Surg.*, 1898, XXVII, 745-752) describes this form of self-destruction, which is practised by Japanese *Samurai* (gentlemen of the military class), and then tells of a case coming under his personal observation, which ended in recovery. The ceremony as carried out by the Japanese is briefly as follows: The condemned, in the presence of only his friends and the high officers of the court, sits upon a slightly elevated platform. A sharp knife is handed him which he

plunges into his abdomen to the left and below the navel, draws it transversely across to a corresponding point on the opposite side and then removes it. He now inclines forward and a *Kaishaku* (executioner) cuts off his head with one blow of a sharp sword. In the case observed by Dr. Hart, a man of about forty years of age, during a fit of melancholy stabbed himself in the abdomen and cut transversely across the abdomen so that a large part of the intestines protruded from the wound. He was taken to the Pennsylvania Hospital, where ether was immediately administered. Hemorrhage was stopped, fifteen inches of small intestines which had been torn from its mesenteric attachment, resected, and the rest of the intestines cleansed with sterile water and returned into the abdominal cavity. The wound was approximated by deep retaining sutures passing through all the layers of the abdominal wall and each plane of tissue united by a separate row of catgut-sutures. Drainage was provided for by a two-way glass tube. Except for a stitch-abscess the patient made an uninterrupted recovery, the stitches being removed on the twelfth day. T.

Complete Ossification of the Choroid

In *Bul. méd.*, No. 21, March 13, 1898, Grandclément's report to the Lyons Society of Medical Sciences of a case in which he enucleated an eye whose choroid was ossified is given with account of the grave sympathetic symptoms that accompanied it. He examines into the cause and nature of this occurrence and the symptoms.

Thirty-four years before the eye had been penetrated by a knife in the region of the ciliary body. This had caused no symptoms during 24 of those years. But at that time, without there being redness or pain in the wounded eye, the other eye would experience painful onsets of photophobia for one day in every eight or ten days.

For six months, however, pain and redness have both accompanied the photophobia in the good eye, for three or four days together, with diminished vision.

The author recognized on the good eye a uveitis of the pigmented epithelial layer of the iris. He enucleated the old stump before doing the iridectomy for the good eye and found the lens and the choroid ossified.

His explanation is this: Irritation of the old scar on the embryonic or plasmatic cells which the choroid and all other tissues of the mesoderm keep in reserve, produced first fibrous and next osseous tissue, the chorio-capillary network being transformed

by long use into a true periosteum with osteogenic properties.

The sympathetic troubles of the other eye, at first simply functional and periodic, become organic and permanent. So far as the transformation, first fibrous and then osseous, of the choroid is but slight, the sympathetic phenomena provoked on the other eye are purely functional and periodic, whether through the ciliary nerves or by the blood-vessels or lymphatics carrying organic toxins manufactured by the diseased eye. But when the completely ossified choroid irritates too much the ciliary nerves distributed through it or on it, or when too much toxin or organic waste is carried by the blood-vessels or lymphatics, then the pigment-layer of epithelium of the retina, ciliary body, and posterior surface of the iris is disturbed and iris uveitis appears.

Prof. Gayet says of it, that formerly we attributed the ossification to the retina, but we soon saw that the choroid was the point of departure for its production. Only the question is whether the bony tissue is substituted directly for the choroidal, preserving the form of the latter; or, must the vascular membrane be first replaced by fibrous tissue. Most of us favor the latter theory, but Poncet figures an illustration favoring the former.

The theory of transformation through fibrous membrane into bone accords with the development of the bony plates of the cranium from preformed fibrous layers. Ossification of choroid is not rare; it is common in stumps. It usually occupies the posterior pole of the eye, and rarely extends to the ora serrata. Simple irritation of the ciliary nerves is the excitant of sympathetic phenomena in the other eye. It is not necessary to invoke the aid of microbic agency to explain them. That there is no malignant sympathetic ophthalmia without wound of the ciliary body, and that sympathetic ophthalmia is necessarily related to a pretended uveitis, are points in which Gayet does not agree with Grandclément. The uvea is an epithelium living on the tissues over which it is extended and is not properly susceptible to inflammatory changes. Their disturbances are diathetic and dependent on disturbances of the lymph circulation. H.

The Technique of Temporary Resection of the Skull with the Wire Saw

Dr. Leonardo Gigli (*Centralbl. f. Chir., Berl.*, 1898, No. 16, 425-428) describes the method of using his wire saw in resecting a portion of the cranium, briefly as follows:

Having decided upon the outline of the 3-sided flap which is to be turned down, two small incisions are made at the upper corners just sufficiently large to allow the application of a small trephine. As soon as the holes have been drilled a director with a beak turning off almost at a right angle, and grooved so as to properly direct a thin piece of whalebone between the dura and bone, is inserted with the beak placed between the dura and skull. The whalebone threaded on the end with a long piece of strong and thin silk is then pushed gently on in the direction of the other trephine opening until it comes in view when the thread is partially drawn out. Each of the remaining sides of the flap is treated in a like manner. One end of the threads is attached to a wire screw, and the saw drawn through between the skull and the whalebones. The skin-incisions are now completed and the bone sawed through. T.

Senile Gangrene and Its Treatment

Thomas Jones (*Med. Chron.*, Vol. VIII, New Series, No. 4, p. 241) remarks that by the term, senile gangrene, he means that form associated with, and directly dependent upon, inflammatory and degenerative changes in the arterial coats. It may be met with at any time after forty years of age, and is not confined to the advanced periods of life. As the interference with the circulation is usually greatest in the distal part of the arterial system, senile gangrene is most usually encountered in the toes. To the query propounded by the writer: Are there any premonitory symptoms which indicate the imminence of senile gangrene, an answer is given stating that coldness of the feet has been the most common symptom in the cases which have come under his observation, the patients having experienced unusual difficulty in keeping up the circulation in the lower extremities for many months before the gangrene had actually declared itself. Perverted sensations have also been observed, especially crampy pains in the calf. Everything calculated to depress the vitality of the tissues is to be avoided. The insufficiency of the blood-supply is to be met by the artificial maintenance of the local temperature, and any breach of surface is to have careful attention. If the gangrenous process has actually set in, the disease should be circumscribed and the effects minimized as much as possible. The writer places local treatment first, as of greater importance than the general. All precautions calculated to prevent septic absorption should be observed. The immediate vicinity of the

dead part is to be freely dusted with iodoform, covered with sublimate or salicylic wool and a flannel bandage comfortably applied. Should there exist a small ulcerated surface or patch of necrotic tissue, with some discharge, the dressing applied may have to be renewed daily or on alternate days. With the observance of rest, an improvement in the local condition is to be expected, though any change for the better will be slow and fitful. The practise of removing tags of dead tissue the writer condemns, as the slight irritation arising therefrom may prove to be prejudicial, and in some instances lead to an extension of the gangrene process, which had become limited. As to the question of amputation the writer declares that it should be done through the lower third of the thigh, or in some favorable and exceptional cases through the knee joint, the state of the arteries, more particularly as regards potency having a determining influence. When the gangrene is limited to one or two toes, an expectant plan of treatment is warranted; when, however, it has reached the metatarsus, one must be prepared to carry out the high amputation, unless the general condition of the patient is so bad from sepsis that there is a certainty of a fatal issue. The presence of sugar and albumen is a contra-indication also. L.

Cancerous Transformation of an Adenoma of the Breast

Monod (*Bul. méd.*, March 6, No. 19, p. 220, 1898) cites the case of a patient in whom Nelaton twenty years ago found an adenoma of the breast the size of a large nut which three years later began to increase in size and which in 1889 (ten years after Nelaton first saw it) measured 74 centimeters (29 in.) in circumference. Monod removed it and found it a sarcomatous tumor weighing eleven pounds and containing centrally a sanious liquid. There was no glandular enlargement, yet three months later there was return in same place. It was at once removed again and no return occurred for five years. But during those five years he had three times removed similar tumors from the back. A final return caused death in 1896.

Roentgen Ray and Bismuth Capsules Used to Locate the Stomach—American Discovery

The BULLETIN of May 25, 1898, noted that capsules containing metallic bismuth had been used by Boas and Dorn (*Deutsch. med. Wochenschrift*, Vol. XXIV, No. 2,

1898) to locate an obstruction at the pylorus or elsewhere, by means of the shadow seen by the fluoroscope. An essentially similar method has been devised independently by Dr. A. L. Benedict, of Buffalo, and described in an article in *Medicine*, February, 1898. Benedict, however, uses the ordinary subcarbonate of bismuth or a powder of iron or even tablets, inclosed in capsule. The method was first successfully carried out in July, 1897, the capsule being seen to move with peristalsis, and, in one case, apparently after rupture of the capsule, the whole stomach became visible as a faint shadow. Radiography by means of this test was tried in March, 1897, but failed, doubtless because of the gastric movements. S.

Disinfection of the Field of Operation

Landerer and Krämer (Ref. *Brit. Med. Jour.*, No. 1942, 1898) point out that the ordinary method of disinfecting the seat of a proposed operation by scrubbing, and the application of ether and some antiseptic solution, acts merely on the surface of the skin, and does not attack any micro-organisms which may exist in the cutaneous glands, and which can be reached only by a disinfectant in a gaseous form. In the course of the past five months the authors have used for this purpose a 1-per-cent. solution of formalin with, it is stated, very good results. Compresses dipped in this solution and covered by some impermeable material are applied to the skin at the seat of operation, and allowed to remain with one or two renewals from twelve to thirty-six hours. G.

On the Structure of the Spinal Ganglia

The great interest taken in the diseases resembling tabes has stimulated research upon the structure of the posterior spinal ganglia. One of the latest contributions to this subject is by E. Cavazzini (*Arch. Italiennes de Biologie*, Vol. 28, p. 50). He there concludes from a comparative study that—

1. The cells of the spinal ganglia in mammals vary greatly in size.
2. Their size bears no relation to the size of the ganglion.
3. In the same species they vary with the age and the particular litter of animals.
4. They are largest in the adult animal; thus in the mature cat they are twice as large as in the cat of a few days.
5. In the different regions of the spinal cord the cells vary in size, thus they are smallest in the dorsal region. J.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Puerperal Septicemia—Treatment

R. S. Martin (*Richm. Jour. of Pract.*, Vol. XII, No. 5, 1898) concludes:

1. Puerperal fever can in a measure be prevented by thorough cleanliness, aided by antiseptics when indicated.

2. In all cases of sepsis the cause, if possible, should be ascertained. Treatment should be adapted to the condition of the patient. Local treatment must consist of asepsis. The choice of antiseptics must be left with the operator. If bichloride is selected, it must always be followed by normal saline solution or plain sterilized water, to prevent poisoning. The curette should be used with caution; the blunt one if labor be at full time; the sharp one after abortion.

3. If curettage is performed, pack uterus with sterilized iodoform gauze.

4. The constitutional treatment must be decided upon according to the case. In most cases calomel is indicated; some prefer salines. Strychnia is indicated, if pulse is quick and weak. Plenty of good whisky should be given; quinia combined, in some cases, where temperature is high, with acetanilid and phenacetin. Ice-bag over lower abdomen is of great value if there be much pain and a high temperature.

5. In all cases support the patient with plenty of good, liquid nourishment. S.

Senile Uterine Catarrh

J. H. Croom, Edinburgh (*Edin. Med. Jour.*, Vol. XLV, No. 514, p. 347), in discussing the subject of senile uterine catarrh, or post-climacteric endometritis, remarks that a due appreciation of it would save many an unfortunate woman from hysterectomy, the differential diagnosis from malignant disease not being as difficult as one might believe. Three typical examples are detailed illustrating what the writer considers the three forms of senile uterine catarrh: 1. Those associated with fetid discharge and no hemorrhage; 2. Those associated with leucorrhœa and slight hemorrhage; 3. Those in which hemorrhage is the main, if not the only symptom. The symptoms are extremely like those of malignant disease, the patient suffering from vaginal irritation and showing marked signs of general cachexia, the skin becoming sallow, and general emaciation sets in. This is really due to a slow sepsis, which is further shown in occasional rigors and night-sweats. The

vaginal discharge is watery and semipurulent, though frequently it contains a considerable amount of blood. The odor is, as a rule, most offensive, in some cases more so than in marked cases of cancer. Along with these symptoms there is frequently a certain amount of abdominal pain, pains in the back, and progressive invalidism. With regard to the differential diagnosis, the following points are worthy of consideration: First, in most cases of primary fundal cancer, periodic and severe pain is an early and prominent symptom; whereas in senile uterine catarrh the pain is irregular and colicky, or, if not, it is slight and constant. Second, in cancer, fetid discharge, at least in the earlier stages, is unusual, because the os is closed and the surface of the cancer is protected from external influences, whereas in catarrh, especially in the first two forms mentioned, fetid discharge is a prominent and early symptom. Third, local examination in cancer finds the uterus distinctly enlarged, sensitive, and early becomes heavy and fixed; whereas in the simpler condition the uterus either is normal or only slightly enlarged, and remains freely movable throughout. Fourth, dilatation and local exploration reveal the presence of a neoplasm in the one case and the absence of all irregularities in the other. As regards the causes of this senile condition of the uterine mucous membrane, the author can assert nothing positive; at the same time he strongly insists that it is not prodromatic of malignant disease, a case of the simpler condition never becoming later one of cancer. The treatment suggested is that of rest, hot douches, the administration of arsenic, strophanthus, and Chian turpentine. The application of caustic by means of dressed sounds, or, still better, curettage, with packing and drainage, is strongly advised. L.

The Use of the Hand in Obstetrics

In a paper read before the Obstetric Society on October 5, 1897, Dr. M. McLean asserts that in doubtful cases of delayed labor the insertion of the fingers in the vagina is not sufficient for purposes of diagnosis, as the tissues about the superior strait cannot be satisfactorily studied without the free introduction of the entire hand. The normal internal conjugate will just accommodate the hand with all the finger-joints flexed, except the metacarpo-phalangeal joints, the bulb of the thumb being pressed firmly against the second joint of the index finger. The measurement taken in a direct line from the phalangeal joint of the thumb to the second joint of the little finger will be

found to be just four inches, and the points named—the knuckles of the flexed thumb and the flexed little finger—come in contact with the sacral promontory, on the one hand, and the pubic symphysis on the other. Should the pelvis admit the same impinging joints of the thumb and little finger while the extremities are all extended—instead of flexed, as before—a measurement of three and a half inches in diameter is the result. Again, should it be necessary to withdraw the thumb in reaching the same bony points of the pelvis, a diameter of three inches is obtained. The diameter obtained by the contact of the middle joints of the index, middle and ring fingers, does not exceed two and a half inches. The longer diameters of the superior strait, oblique and transverse, may be approximately estimated by abducting the thumb from the fingers in the first position. The presentation and position may, the writer believes, be settled with a certainty which no other means can offer, and as irregularities in the position of the head constitute a large preponderance of the difficulties in cases of dystocia, it is here that the intelligent use of the hand will render the most valuable service. For the correction of faulty positions of the presenting part, or for the application of forceps, nothing is so safe and simple as the use of the fingers. To the objections that the frequent examination of the parturient canal may be productive of mischievous results, the author replies that a “well-trained hand is safer within the mother’s body than any mechanical instrument; and what shall be said when the instrument is in an untrained hand?” S.

Gastro-Intestinal Troubles in Inflammations of the Female Genital Organs

In *Sem. med.*, No. 8, Feb. 9, 1898, p. 63, Paul Delbet’s article in *Arch. Gen. de Méd.* Feb., 1898, is reproduced. After her second accouchement his patient began to experience pains localized in the left inguinal region at the same time that leucorrhea manifested itself. Later dyspeptic symptoms increased. She retained nothing except soup and milk in small quantities. There was no fever, but considerable loss of vigor. The neck of the uterus was somewhat swollen, the body was tilted to the right; a tumor the size of two fists occupied the left side of the pelvis, round and slightly movable. Local treatment directed to salpingitis was ineffectual and laparotomy was performed.

On opening the peritoneum the stomach presented much dilated, with the greater curvature on a level with the pubes, held

there by slender bands of adhesion to the anterior surface of the pelvis. The tumor was pretty well attached by adhesions not easy to break up and was found to be nothing more than the knotted and bunched omentum below which the ovary was slightly enlarged and had a small abscess in its anterior wall. The tube was somewhat congested and thickened. Both ovary and tube were removed and the patient got well.

It is a case of displaced omentum bunched into the left side of the pelvis so as to simulate a large tumor and of gastrectasis due to primary adhesions of the great omentum which dragged down and thus dilated the stomach.

To explain the mechanism the author experimented on the cadaver and found that pulling on the great omentum brought down the first or movable portion of the duodenum with the stomach; the second portion remained fixed, and thus a sharp angle was produced at the junction of these two portions of the duodenum whose mechanical effect was to obstruct the evacuation of stomach-contents and cause dilatation and fermentation, growing from small to greater until operation became necessary. H.

Restoration of the Female Urethra and Closure of the Bladder, after Extensive Laceration

M. H. Richardson (*Bost. Med. and Surg. Jour.*, Vol. 138, No. 9, p. 202) reports a case of extensive laceration of the female urethra and bladder, in which Thiercal’s principle, used in restoring the urethra in cases of epi- and hypo-spadias in the male, was successfully employed. This consists in the use of extensive flaps superimposed in such a manner that the internal surface of the urethra and bladder is supplied by vaginal mucous membrane; at the same time the denuded vaginal surface is restored by shifting a flap sufficiently large to cover it. The procedure is made clear by reference to diagrams accompanying. The patient had a difficult labor, the attending physician finding a deformity of the bladder and an exaggerated hymen. There had never been any penetration. With the patient in the dorsal position, no opening into the hymen could be found. The child was delivered with difficulty by the use of instruments. After confinement there was inability to control the bladder. On examination the author found an entire absence of the urethra, in its place there being an irregular line of everted mucous membrane extending a half-inch back into the base of the

bladder. A flap was first made to the patient's right of the fissure and corresponding to it in length. The base of this flap was the line of everted mucous membrane. Turned toward the left, this flap presented its mucous surface upward, and was destined to be the floor of the urethra. The second flap, on the patient's left, was a little longer than the first, and began at the left edge of the everted urethra. This flap had its base about half an inch to the left of the urethra, and over it the first flap was spread. The flap was fastened to the denuded surface of the second flap by four silk sutures. The catheter was thus covered in by vaginal mucous membrane. The second flap was then brought over the first and to the right, where it was fastened by numerous fine silk stitches. From this, it will be seen, mucous surface was brought to mucous surface, and raw surface to raw surface. Immediate union resulted without leakage. The patient not only had a tight bladder, but she could control it. Since operation there has been no loss of control, but micturition is frequent, especially when she is erect. The author observes that this method of closing the fistula presents a double chance for success; for if the mucous approximation is imperfect, as it is likely to be from the impossibility of using sutures, the denuded surfaces, opposed to each other over comparatively broad areas, can be most closely approximated and accurately sutured. The difficulties in applying this method to the female are not small, for in addition to the restoration of the canal, the power of controlling the bladder through the sphincter vesicæ is essential. In the present case the functions of this muscle were completely restored. L.

Uterine Fibroids Expelled by Electricity

Dr. Lapthorn Smith reported at the Montreal Med-Chirurg. Society two cases of absolute and complete cure of fibroid tumor of the uterus by Apostoli's method (*Montreal Med. Jour.*, April, '98, p. 304). A tumor about the size of a large orange and weighing about a pound was shown. The patient was a single woman, 31 years of age, who had consulted the doctor on account of profuse hemorrhages, which had exhausted her, and of intense pains during the monthly periods. After 40 applications of about 100 milliamperes for eight minutes at a time, she was taken with labor-pains, which lasted two days, at the end of which the tumor was found in the vagina, completely filling it. An écraseur wire was put around it, and its connections cut through, after which it was delivered by forceps. An effort was

previously made to morcellate it, but was abandoned on account of the density of the tumor. In extracting it the peritoneum was lacerated, but was immediately repaired. The patient made a good recovery. From the first application of electricity to the uterus the headache, which had been almost constant for several years, left her and has not returned since. The hemorrhage and dysmenorrhea are also cured. The second case was that of a married woman, who received only 10 applications of 150 milliamperes and then left for home. On the train labor-pains came on, and the tumor, larger than the preceding one, was expelled. The patient has remained perfectly well since. R.

The Menopause and the Kidneys

Dr. LeGendre (*Soc. Méd. des Hop.*, 1897) observes that following the cessation of the menopause the modification of the menstrual flow can cause a congestion of the kidneys, varying in its intensity. The symptoms observed have been oliguria, albuminuria, and hematuria, often accompanied with lumbar pains, nausea, and headache. He recommends local bleeding and mild diuretics. In the case of floating kidneys he believes that renal congestion is more common and more dangerous. J.

The Conservative Treatment of Chronic Uterine Inversion

Dr. Kehrer (*Centralbl. f. Gyn.*, Vol. XXII, No. 12, 1898) replaces the chronically inverted wound in the following way: After wrapping the uterus in gauze it is drawn down to the vaginal outlet. The anterior wall is then divided in the middle line through the peritoneal lining, from the external os to the middle of the body. The fundus is pressed upward into the vagina through the wound and the latter closed with deep catgut sutures from fundus to the internal os. Now one lip of the cervix is seized by means of a vulsella and the uterine body is pressed upward through the cervical stricture. The cervical wound is now sutured and the uterine cavity packed with iodoform gauze. S.

Tuberculosis of the Cervix

E. Kauffmann reports in the *Zeitsch. f. Geb. und Gynæk.* (Vol. XXXVII, No. 1), a case of a primary tuberculosis of the cervix occurring in a woman of 79. It was found on autopsy. Microscopical examination showed the characteristic tubercular lesions and also the presence of the *Bacillus tuberculosis*. Isolated primary tuberculosis of the cervix, he says, has not yet been reported in medical literature. J.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Stray Notes on New Remedies

"TANNOPIN" is the name under which the preparation previously named "Tan-non" is now known.

LYSITOL is described (*Pharm. Centralh.*, XXXIX, p. 145) as a preparation resembling lysol in appearance as well as in its power to kill bacteria and spores, but as being considerably cheaper.

GUAIACOL-AND-QUININE HYDROCHLORATE, occurring in the form of white, crystalline needles, has recently been introduced as a substitute for guaiacol (*Pharm. Centralh.*, XXXIX, p. 145). It is stated to be milder in its action than the latter.

ICHTOL is described as a mixture of lanolin, iodoform, glycerin, carbolic acid, oil of lavender, and oil of eucalyptus. It is intended (*Pharm. Post*, XXXI, p. 94) as an application in itching of the skin.—[It is to be regretted that greater discrimination is not exercised at times in the choice of names for new preparations. In the present instance the name so closely resembles "Ichthyol" that many will no doubt be misled by the resemblance.] F.

Researches on the Therapeutic Action of the Placenta

At the last French Medical Congress, Dr. Iscovesco, of Paris, read a paper with the above title (*La Med. mod.*, April 27, 1898). Taking as a basis the alleged fact that bitches are but seldom affected with puerperal disease, he thought it might be due to the circumstance that they habitually devour their after-births. He therefore began to experiment with its action on human females. He prepared tablets from the fresh placenta of sheep, each tablet containing 0.25 (4 grains) of substance, and has administered them so far to about 100 patients. The patients belonged to three categories: 1. Cases of chronic metritis with hypertrophy of the uterus and concomitant catarrh, but without affection of the adnexa. 2. Cases of chronic metritis with disease of the adnexa. 3. Cases of subinvolution after labor. In about sixty cases belonging to the first category the administration of four to six "placenta tablets" a day has given very favorable results in a very short time. All the reflex phenomena, the pains, the gastro-intestinal trouble improved in a few days and disappeared com-

pletely in from two to four weeks. In order to be certain that the improvement was due to the treatment with placenta-substance, the author had several times stopped the treatment—before the patients were completely cured—and all the symptoms reappeared; with the renewal of the treatment they disappeared again. R.

Sanatogen

The name "Sanatogen" has been given to a glycerinophosphate of sodium casein (*Munch. med. Woch.*, XLV, p. 257). The preparation has been employed by Drs. G. N. Vis and G. Treupel, of Freiburg, as a dietetic. It is readily soluble, and has a pleasant taste and odor. It contains 10.02 per cent. of nitrogen, and is given in doses of a teaspoonful or more, stirred with a little water and then added to soup, cacao, etc., as desired. No extended reports regarding its value are as yet extant, but the authors state that the results so far obtained by them warrant further experiment with it.

The Therapeutics of Venesection

Robin, in a clinical lecture delivered at the Pitie Hospital, Paris (*Med. Press and Circ.*, London, No. 3066, p. 130), declared that the practice of blood-letting has fallen into disuse because it is the fashion to refer everything to infection. He propounds the question at present whether the conditions of the experiments of physiologists, who condemn also the method in toto, are the same as those with which physicians are confronted at the bedside of patients, the difference between the results of both being so great. Physiology teaches that blood-letting determines anemia, weakness of all normal metabolic actions and increased denutrition; nervous activity alone is increased, an exception which, per se, does not compensate for the general falling off. The author states that clinical observation affords no indication for blood-letting in the great morbid processes, such as fever, congestion, and inflammation, its effect being too transient in congestive processes especially. However, in cases of cardiac asystole, with venous congestion, moderate venesection will undoubtedly afford the patient great relief, the diminution of the blood-pressure though being of short duration. In uremia venesection proves useful, both by reducing the tension of the blood and by removing a certain quantity of the toxins, Robin advising in such cases that the vein be opened without hesitation. It thus appears that, excepting in a few special cases, blood-letting can no longer

be defended, either by physiological or clinical arguments, the main indication being the urgency of depletion, its effects even then being but transient. The author adds that the experiments of physiologists do not afford a good physiological basis for practical therapeutics, because, clinically, very much smaller quantities of blood are withdrawn, the results necessarily differing. In the lecture, the modifications brought about by blood-letting in the process of nutrition, as shown by a study of the urine and of the chemistry of respiration, was fully entered into. In a case of influenzal pneumonia, examination of the urine passed in twenty-four hours, after the withdrawal of 100 grammes of blood, showed that a small emission of blood is followed by an increase of tissue-metabolism, more active oxidation, and general stimulation of the chemical actions which take place within the nervous tissues. With regard to the respiratory system chemical experiments are offered giving the following results: 1. Respiration is markedly increased; 2. There is an increase in the production of carbonic acid, in the total amount of oxygen consumed and in the oxygen absorbed by the tissues. The conclusion is arrived at from three experiments that, in addition to the well known depletive action of blood-letting, there is another which has not as yet been brought out, viz., promotion of oxidation by increased activity of nutrition. Also that blood-letting constitutes a powerful agent which may be employed against various affections complicated by impairment of general nutrition, or by slowing of oxidation; it is not a special remedy against any particular morbid process. Its action is twofold, mechanical and chemical. L.

Acute Laryngitis Caused by Potassium Iodide

A man of 50 was treated by Dr. Frankenger for some ear-trouble (*Therap. Monatsh.*, Vol. XII, No. 4, p. 230), and was ordered to take 2 gms. (30 grains) of potassium iodide daily. A few days after commencing the treatment the patient began to complain of pain in the throat and presented symptoms of severe laryngeal stenosis. He had moderate fever. The laryngeal mirror showed severe hyperemia and swelling of the ary-epiglottal folds, as also of the posterior wall of the larynx. The vocal cords could not be seen on account of the irritability of the patient's throat. The potassium iodide was discontinued and the patient was ordered cold compresses about the neck; he also took small pieces of ice at frequent intervals and in three days

all symptoms disappeared. A week later the patient recommenced the potassium iodide, and on the very next day the laryngeal symptoms reappeared. The peculiarity of the case consists in the fact that contrary to the other recorded cases of a similar character, it was not a simple edema, but an intense hyperemia and infiltration of the mucous membrane and of the submucous tissue. R.

Antipyrine per Rectum in Dysentery

Dr. Ardin (*Montpellier Med.*, No. 42, 1897) has utilized the anodyne and hemostatic properties of antipyrine in the treatment of dysentery. In one case he gave 4.5 gms. (60 to 75 grains) in the form of an enema (at one dose), repeating the enema twice or three times a day. And though those large doses were given for several days in succession, no toxic symptoms were noticed. The diarrhea and the tenesmus soon disappeared and the patient got well in a short time. R.

Guaiacyl

Guaiacyl is described by M. André (*Bull. Comm.*, XXVI, p. 85) as the calcium salt of sulpho-compound of guaiacol. It forms a grayish-purple powder soluble in alcohol and in water, and insoluble in fixed oils. A 5-per-cent. aqueous solution has a pale, reddish-violet color, and is very stable; a 10-per cent. solution deposits somewhat after standing a few hours, but the precipitate readily dissolves on agitation. The taste of these solutions is at first astringent, then slightly saccharine; the solutions are neither toxic, caustic, nor irritant. The guaiacyl-solutions have been used by Dr. O'Folowel as an analgesic, in the form of injections, in quantities of 0.5 to 1.5 gme. (8 to 24 grn.) of the 5-per-cent., or 1 gme. (15 grn.) of the 10-per-cent. solution. Anesthesia is said to be complete in five or six minutes. F.

The Therapeutic Indications of Pulmonary Juice

Dr. Brunet read a report on the employment of pulmonary juice at the French Medical Congress, held at Montpellier (*La Med. mod.*, Vol. 9, p. 271). Pulmonary juice, he said, is not a specific against tuberculosis, but it is a remedy that reinforces the resisting power of the entire organism, especially of the lungs, and does excellent service in combating the cough and the excessive expectoration. But the real indication for the employment of the juice will be found in old suppurative processes in the pleura

and in the lungs, even such as are accompanied by osseous or articular changes and are rebellious to any other treatment. In those cases the efficacy of the juice is as certain as it is rapid. In acute diseases such as grippe, bronchopneumonia, bronchitis, pneumonia, the juice may be employed as an adjuvant to the ordinary treatment, and has apparently given good results. But he has not yet attempted to treat those diseases by the juice alone. In all cases, the author says, the juice should be used and not the lung in substance; administration by the mouth is preferable to hypodermic injection and no fear need be entertained in administering it, as, with the exception of acute, febrile tuberculosis, the juice is perfectly harmless.

At the same meeting Dr. Arnozan said that he found the pulmonary juice (prepared according to the method of Prof. Ferré) to give good results in (1) pleural or mediastinal suppuration, in (2) pneumonia and pyothorax, and in (3) arthropathies of the type described by Marie. It is contraindicated in tuberculosis. R.

Deep Injections of Antipyrine in Sciatica

According to Dr. Kühn (*Sem. med.*, XVIII, p. 54), deep injections of antipyrine into the muscle in the region of the sciatic nerve promptly relieves sciatica. He employs a long needle, and makes the injection at a point nearly midway between and a little below a line drawn from the tuberosity of the ischium to the great trochanter, the antipyrine solution being slowly injected at a vertical depth of about half the length of the needle. F.

Chelidonine in Practice

In a note to the *Therapeutische Monatsschrift*, H. Guth, p. 515, 1897, states that the sulphate of chelidonine has proven of no service whatever in doses from 1 to 6 grains. It has no analgesic or narcotic effect whatever. In two instances only was there noted any change in the bodily functions; these consisted in excessive salivary secretion and nausea. J.

Acute Laryngitis Treated With Ichthyol-sprays

Dr. Ciegiewicz states (*Sem. med.*, XVIII, p. 48) that spraying the throat with ichthyol constitutes an excellent means of treating acute catarrhal laryngitis, so common, yet so difficult of treatment. The author employs a cold 2-per-cent. solution, which is sprayed and inhaled twice daily, avoiding very deep inspirations, how-

ever, in order not to provoke nausea or vomiting. Patients soon become accustomed to the odor and taste of the ichthyol, and the symptoms rapidly disappear. Ichthyol-sprays were found to be very useful also in a number of cases of stridulous laryngitis and false croup. F.

Tegmin

Dr. Paul (*Pharm. Ztg.*, XLIII, p. 105) has introduced a new preparation under the name "Tegmin," which is designed as a protective coating in vaccination and surgical operations. It is stated to be an emulsion consisting of wax, acacia, and water in the respective proportions of 1 : 2 : 3, and containing besides 5 per cent. of zinc oxide, and a small quantity of lanolin. Tegmin, when applied to the skin, forms a smooth, white, elastic coat. It can also be used as a vehicle for medicinal substances.

Starch-digesting Ferments

Wyatt Wingrave (*Lancet*, May 7, 1898) reports having made a series of comparative tests with a number of starch-ferments. His conclusions are that the most powerful of the amylaceous or diastatic ferments, as well as the most rapid and reliable, appears to be taka-diastase. This ferment, the writer finds, will convert a greater quantity of starch in a given time than will any other, and its digestive action appears, besides, to be less disturbed by the presence of butyric, lactic, or acetic acid, tea, coffee, or alcohol, than are the saliva and malt extracts. All mineral acids do, however, quickly check and permanently destroy all diastatic action in time, if present in sufficient quantity. Taka-diastase and malt-diastase are, like ptyalin, without action on uncooked starch; hence, starchy foods should all be cooked before ingestion, in order to permit the action of the diastatic ferment to be properly exerted.

Gangrene Due to Carbolic-acid Dressings

From observations made in a great number of cases, Dr. Honsell concludes (*Sem. med.*, XVIII, p. 50) that compresses or dressings of carbolic-acid solutions, no matter of what strength, should be rigorously proscribed, because of the very great liability they have to cause gangrene. F.

Treatment of Infantile Ganglionic Grippe

Dr. Concetti, of Rome, states (*Sem. med.*, XVIII, p. 62) that in the treatment of the infectious "ganglionic fever" of infants, described by Pfeiffer—which is ushered in by symptoms of rhinitis and pharyn-

gitis accompanied by tumefactions of the cervical, submaxillary and retromaxillary ganglia—he has obtained the best results from the administration of sodium salicylate in daily doses of from 1 to 2 gme. (15 to 30 grn.) in connection with the simultaneous use per day of a potion containing 1 gme. of potassium chlorate. The tumefactions are treated locally, either with cold compresses, applied to the neck, or when congested, with a 15-per-cent. ichthyol ointment followed by light massage. F.

Treatment of the Delirium of Erysipelas

Dr. F. Beigbéder states in his inaugural thesis (*Sem. med.*, XVIII, p. 72), that he has found subcutaneous injections of from 1 to 5 milligrammes (1-64 to 1-12 grn.) doses of strychnine sulphate to be successful in the treatment of 29 cases of delirium occurring in patients affected with erysipelas. Recourse may also be had to opium in doses of 0.05 to 0.1 gme. (3-4 to 1 1-2 grn.) as well as to cold baths, in cases of hyperthermia. In alcoholic subjects and in those where the erysipelas is complicated with cerebral troubles exhibiting the character of delirium tremens, care must be taken to suppress the use of alcohol. F.

Antidiphtheritic Serum in the Treatment of Vulvar Gangrene of Morbillic Origin

A case is recorded by Drs. Freymuth and Petruschky (*La Sem. med.*, XVIII, p. 86) in which a little girl of 3 years of age, during an attack of well-characterized measles, became affected with gangrene of the external genitals (labia majora and minora), from the anus to the pubes. As dysphagia, rhinitis, and an intense laryngitis were also observed, the authors suspected a mixed infection from diphtheritic and morbillic virus and therefore made injections of antidiphtheritic serum, with the result that the gangrenous processes were immediately checked. The necrotic tissues became sharply defined in their extent, and were eliminated in the form of strips in which the Loeffler bacilli could be detected. The rhinitis and laryngitis were also rapidly improved, and the false, white membranes were soon disintegrated by further injections of the serum, of which five were made in the period of six days.

Injections of Sodium Bicarbonate in Internal Urticaria

Dr. Mahis, of Cérilly (*Sem. med.*, XVIII, p. 122), has obtained good results by the use of sodium bicarbonate per rectum in a neuro-arthritic patient subject to

urticaria of the mucosa in connection with external eruptions. At the time of treatment, there were present, besides the eruption, edema of the lips, and considerable lingual tumefaction which rendered the swallowing of liquids almost impossible. The pulse was almost imperceptible, the extremities cold, and there was dyspnea and vomiting, besides severe internal pains. The following injection was used:

Sodium Bicarbonate.....	20 Gm.
Wine Opium.....	30 drops
Boiled Water.....	500 Gm.

On the use of this mixture the burning sensations became less intense, the lingual tumefaction noticeably decreased, and the itching of the skin disappeared. Similar injections were made 5 times a day, decreasing the quantity of sodium bicarbonate gradually, and after a few days a complete cure resulted, which the author ascribed solely to the use of the bicarbonate. F.

Oil Cloves in Pulmonary Tuberculosis

Dr. H. A. Hare states (*Sem. med.*, XVIII, p. 122) that oil cloves administered concurrently in hypodermic injection and per os has the effect, in advanced pulmonary phthisis, of improving the cough, expectoration, nocturnal sweats, and hectic fever. Daily injections are made into the subcutaneous tissues of the dorsal region of 5 drops of the oil dissolved 1.75 to 3.5 Gm. of sterilized olive oil. This injection causes an intense pain which, however, disappears in a few minutes. Besides this, the patient takes from 5 to 15 drops of the oil one hour after each meal. Care must be constantly observed in the internal administration of the oil, as the remedy is prone to provoke gastric troubles. F.

Advantages of Oleaginous Collyria Over Aqueous Ones

In an inaugural thesis, Dr. B. Scrini enumerates (*Sem. med.*, XVIII, p. 98) the advantages which oleaginous collyria possess over aqueous ones. The author states that aqueous collyria are neither convenient nor certain; they provoke a considerable flow of tears, as well as a spasm of the orbicularis palpebrarum; and, finally, it is impossible to preserve them in an antiseptic condition. On the contrary, oleaginous collyria are devoid of these drawbacks and exert, besides, a more intense and rapid action than the aqueous collyria. The oleaginous cocaine-solution, in particular, causes no exfoliation of the corneal epithelium. For the preparation of the collyria, the writer employs olive-oil or pea-

nut oil. The oil is first well shaken with strong alcohol to remove the fatty acids it may contain, and is then sterilized by heating at a temperature of 120° C. for about 12 minutes. The oil is then preserved in a bottle the neck of which is closed with a plug of sterilized cotton. The solutions are made with the aid of heat, the alkaloids being used, because the alkaloidal salts are generally insoluble in oils. One-per-cent. solutions of atropine or eserine may be made; of cocaine, a 2-per-cent. solution. The best means of applying the solutions is said, by the author, to be a small glass rod, one end of which has been flattened and slightly curved. This enables a drop of the collyrium to be readily introduced into the conjunctival cul-de-sac, and it may be easily rendered and kept aseptic.

Compression of the Pneumogastric Nerve at the Surface of the Neck in Asthma

Dr. A. de Miranda (*Sem. med.*, XVIII, p. 110) has employed compression of the pneumogastric nerve, at the surface of the neck, in four cases of asthma. The compression was simply accomplished by means of a finger placed at the proper point on the neck, and yielded relief within a few minutes, even to complete disappearance of the attacks of dyspnea.

Formic Aldehyde in Tubercular Laryngitis

A note in the *New England Medical Monthly* (Vol. XVII, No. 5) refers to a recent communication from Dr. S. Solis-Cohen, relative to good results obtained in this disease with formic aldehyde.

Commercial formic aldehyde is offered in 40-per-cent. solution, known variously as formalin, formol, or formaldehyde. This should be diluted to 2, 4, 6, 8, and 10 per cent., and as it is not readily soluble it should be kept on hand in phials. It is applied on a mop with friction, like lactic acid. The application should be preceded by cocaineization. We should begin with weak solutions and rapidly increase up to 10 per cent.

It is a potent antiseptic, germicide, and preservative and will destroy degenerate tissues. U.

On the Action of Strontium Lactate

As the results of a series of observations made on thirteen cases of nephritis and a number of experiments on rabbits and dogs, the author, Bronowski (*Mém. de la Soc. Méd. de Varsovie*, Vol. 92), shows that when lactate of strontium is given intra-

venously in rabbits and dogs and by mouth in man, that—

1. Under the influence of lactate of strontium the blood-pressure is lowered rather than raised.

2. The pulse is gradually raised by increasing doses, the respiration being steadily increased in frequency.

3. Large doses, 15 grains to 30 pounds, irritate the kidneys. By gradually increasing the amount of drug the urine gradually becomes bloody, this may be due to increased renal blood-pressure or to a direct action of the walls of the vessels in the kidney.

In certain cases of Bright's disease lactate of strontium has a distinct action on the amount of urine, increasing it and diminishing the amount of albumin.

5. The lactate of strontium does not seem to have any direct action on the epithelium of the kidney. J.

Ringworm and Favus—Treatment

Dr. P. G. Unna (*Post-Grad.*, XIII, p. 319) recommends the following method of treatment in ringworm and favus of the scalp: The whole scalp should be shaved, washed, and the following ointment rubbed in:

Chrysarobin	5 parts
Ichthyol	5 parts
Salicylic Acid.	2 parts
Adeps Lanæ.....	30 parts
Vaselin.	58 parts

A thin cap should be worn on the head, and the edges of the cap bound around with a mull bandage, and covered with zinc-paste (for the protection of the eyes). F.

Beech-wood Creosote in Phthisis

Charles Lamplough (*N. Y. Med. Jour.*, No. 1023, p. 72) thus sums up the results of his observations in 100 cases of pulmonary tuberculosis treated with large doses of beech-wood creosote: (1) Beech-wood creosote can be given with benefit, in amounts varying from 120 to 240 min. daily. (2) It is best administered in cod-liver oil or in a spirituous solution; in some cases the "creosote chamber" or oro-nasal inhaler may be ordered in addition, with advantage. (3) The dose should be small at first, but it can be rapidly increased to 40 min. three times daily for an adult. In three cases doses of 30 min. three times a day were well borne by children. (4) Large doses rarely cause any gastric disturbance; on the contrary, the appetite is frequently increased, symptoms of dyspepsia disappear, and cod-liver oil is more easily assimilated. The cough, expectoration, and night-sweats are diminished, and the physi-

cal signs improved. (5) Owing to its disinfectant action in the alimentary canal, the drug probably diminishes the risk of tuberculous enteritis by self-infection when patients swallow their sputa; but owing to the increased peristalsis which is created by creosote, it is usually contraindicated in cases where the ulceration is already advanced. (6) The drug does not tend to cause hemoptysis, but rather to prevent its recurrence. (7) Creosote does not irritate the normal mucous membrane of the genito-urinary tract. (8) Owing to its extremely small cost pure creosote can be given to a much larger number of patients than the carbonates of creosote and guaiacol, which respectively cost four times and twelve times as much as the older drug.

Hydrotherapeutic Treatment of Gastric Ulcer

Dr. Winternitz states (*Sem. med.*, XVIII, p. 70) that gastric ulcer may at times be very advantageously treated by hot or cold applications, according to circumstances, instead of the ordinary medication. Gastric pains may be rapidly soothed by cold hip-baths, and by the application of a cold compress to the stomach. For the latter purpose the author has obtained best results from a rubber tube, wound spirally, through which cold water was made to circulate. Gastric hemorrhage was combated by introducing small pieces of ice into the rectum. This arrested the hematemesis better than did any other remedy, by causing an intense reflex spasm of the gastric vessels. Of course, an appropriate regimen (milk diet) must be rigorously followed. F.

Treatment of Phlegmons with Antidiphtheritic Serum

Dr. E. Monti, of Pavia, has found (*Sem. med.*, XVIII, p. 142) that subcutaneous injections of antidiphtheritic serum exercise a most favorable influence on the advance of the phlegmonous inflammations, and particularly in gangrenous ones. So long as the morbid process has not passed beyond the period of simple inflammatory infiltration, the injection of the serum is followed, in about 12 to 24 hours, by a reduction of the fever, tumefaction, pain, and prostration; and the cure is complete in about 12 days. If suppuration, and gangrene of certain parts of the skin are already present, it is necessary to make an incision of more or less extent in the phlegmon; even in these cases the morbid process is favorably influenced by serotherapy—the temperature is lowered, the necrotic parts are rapidly detached, the suppuration ceases little by little,

the general condition becomes improved, and the patient is cured in a comparatively short time. Among 31 cases of phlegmons treated, not one proved fatal, whereas previously the mortality had been from 45 to 80 per cent.

Anaphrodisiac Action of Thyroidine

Among the effects of thyroidine medication, Dr. A. Rivière reports one (*La Sem. med.*, XVIII, p. 94) which, he believes, has not heretofore been observed. He refers to its anaphrodisiac action in two obese and arthritic subjects who had been taking thyroidine for several months. The patients became considerably reduced, and the impotence ceased only after the use of the remedy had been suspended for some time. According to the author, this action may, perhaps, explain the success obtained by injecting thyroid preparations in the treatment of uterine fibromas, and particularly the hemorrhages caused by these tumors. Thyroidine may hence, perhaps, be profitably employed in treating prostatic affections due to congestion of the genito-urinary organs.

Iodoformogen as a Vulnerary

Dr. Schmidt, of Halle, reports that he has used iodoformogen as an application to recent wounds. After the bleeding had stopped the wounds were dusted with the powder, then sewn, and a thin layer of the powder applied over all. The wounds were as a rule rapidly and very satisfactorily healed. Wounds of 2 cm. and larger, in which there was considerable tension, were also treated without suturing, in order to see if iodoformogen would be able, on account of its great adhesiveness, to firmly adhere to the margins and heal the wounds. As a rule excellent results were attained in these cases.

Atomization of Ether in Splenic Hypertrophy of Paludal Origin

Dr. A. Moscucci (*Sem. med.*, XVIII, p. 98) has employed ether-atomizations in 12 cases of splenic hypertrophy of paludal origin, with good results. The atomizations were practised twice daily, 25 or 30 gme. of ether being used each time, and were made on the left half of the abdomen, the right half being covered with a coat of cotton. The local cold and the ischemia caused were followed by a more or less intense reaction, which was evidenced by the redness of the skin, heat, and pricking sensation at the region etherized. Relief was usually experienced from the beginning of the treatment; the spleen regaining its normal size after about one month of treatment.

REVIEWS

Sexual Neurasthenia. Its Hygiene, Causes, Symptoms and Treatment. By George W. Beard, A.M., M.D. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D. Fifth Edition with Formulas. Press of E. B. Treat & Co., New York.

Each succeeding edition of this work has received its praise or criticism from the reviewer, and but little that is new can be said regarding this fifth edition. The book, as originally written by the late Dr. Beard, received widespread attention, and was, at that time, an elucidation of a new and unstudied field of medicine. Since that time a number of works on sexual neurasthenia, psychopathia sexualis, etc., have appeared but most of them are of little value to the practical physician. But this is not true of the book under review; it stands a peer among its fellows.

The present edition has been carefully edited, revised, and modified by its able editor, Dr. A. D. Rockwell. The formula, which is new, will be found useful in various forms of sexual exhaustion or irritability.

It will be unnecessary to make especial mention of any of the chapters, for they have been so frequently reviewed.

The highest commendation of the work is, that it can safely be placed in the hands of the youngest medical student, and he, as well as the older physician, will glean much useful knowledge from a careful perusal of its pages. The typography, binding, etc., is of the usual excellent workmanship of E. B. Treat & Co.

Report of the Health-Officer of the District of Columbia for 1897.

WASHINGTON GOVERNMENT PRINTING OFFICE, 1897.

Dr. William C. Woodward, the Health-Officer, has presented an exhaustive report upon the sanitary condition of the District of Columbia; and his own work is followed and complemented by that of his various aids.

The death-rate for the year was 20.71; that of twenty years ago was 25.91, and that of ten years ago was 22.14. The improvement has been most marked among the colored people, who form 32 per cent. of Washington's inhabitants. The District has an excellent showing as regards scarlet-fever mortality—only .03 per cent. of the whole population; in this it stands first among fifteen cities in the Union. It stands fourth as regards its death-rate for diphtheria, 3½ per cent. of its people having died of this disease. Self-esteem prompts us to note parenthetically that New York stands second among the fifteen cities in the smallness of its diphtheria-mortality. The disease treated in Washington with antitoxin had a mortality of 7½ per cent, when not so treated the mortality was 26½ per cent. The Washington Health-Authorities, unlike those of New York city, are not now in the business of manufacturing antitoxin; they buy their serum in the open market.

Tuberculosis in its various forms (including phthisis pulmonalis), was responsible for 18 per cent. of all the deaths, which were much more numerous among negroes than among the whites.

Mention of the Widal reaction is not to be found in this report.

The report makes complaint that the District provides for the disposal only of such refuse as garbage, dead animals, and street sweepings (ex-

cept as is provided by the system of sewers), but does not remove such material as night-soil, ashes, general refuse from dwellings and stores, etc. An improvement of the sewer system is strongly urged; it is evidently very much needed. Agitation for such improvement was begun in 1878, and sewage in Washington is as yet at a standstill, both figuratively and in fact.

Five excellent maps of the city of Washington accompany the report, showing very graphically the locations of cases of typhoid, malarial fevers, diphtheria, scarlet fever, diarrheal diseases, pneumonia, bronchitis, and other lung-diseases, and finally consumption.

We note that in Washington private hospitals and dispensaries are scarce; there are no doubt many New York physicians who could become reconciled to the shifting of a few of its superfluous medical charities to Washington.

Chirurgie du Cou. By Felix Terrier, Professor in the Paris Faculty of Medicine, etc. Lectures in 1896, arranged by A. G. Guillemain and A. Malherbe, Surgeon and Intern of the Paris Hospitals. Paris: Felix Alcan, Publisher, 108 Boulevard St. Germain. 1898. 4 francs.

This companion to *Chirurgie de la Face*, by the same authors and the same publisher, is not equal to it in point of interest, newness and variety. The form of volume is similar, the same teacher's hand is manifest, but the variety of material is not at hand out of which to make as readable a treatise. Yet, as the second of a series of volumes of lectures on regional surgery, it has its own place and value, and is indispensable to the set. The authors treat their subject under four large heads. The first is devoted to the surgery of the air-passages. In it due credit is given to Dr. O'Dwyer for the deserved popularity of intubation of the larynx. His intubation-tubes are described as the type of all instruments of this kind. The array of other instruments figured and described as employed in endo-laryngeal manipulations shows the authors' appreciation of how much mechanical ingenuity for the relief of endo-laryngeal conditions has been stimulated by the use of the laryngoscope. The illustrations accompanying the description of tracheotomy and of thyroidectomy are especially to be noted as helpful to the study of each step of these operations. This part occupies about one-half of the book. The second part is occupied with the surgery of the thyroid body, the third with that of the esophagus, and the fourth with that of the vessels, lymphatic glands, muscles and nerves of the neck. The first part is the most valuable to the general practitioner; the others complete the treatment of the field, necessarily embracing much that is not commonly used, but none the less necessary to be described. The book is a valuable addendum to the works on surgery, all the more so as it comes fresh from the hands of admiring pupils of a master worthy of their devotion.

The *Philadelphia Medical Journal* says that at the International Zoological Conference to be held in Cambridge in August, the honorary degree of D.Sc. will be bestowed on Dr. Henry P. Bowditch, professor of physiology in the University of Harvard; Dr. Camillo Golgi, professor of general pathology in the University of Pavia; Dr. Hugo Kronecker, professor of physiology in the University of Berne; Dr. Willy Kühne, professor of physiology in the University of Heidelberg; and Sir William Turner, professor of anatomy in the University of Edinburgh, and president of the British General Medical Council.

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EDITOR'S NOTES

The New York Board of Health has evidently too little work of a sanitary kind to do to fill up its time. The members find it necessary to go into the manufacture and sale of serums so as to consume the surplus time upon their hands. We wonder if they are going to obey the law and keep a registered pharmacist to make their sales, or do they prefer to defy the laws of the State and make of themselves fitting examples for anarchists, while likewise practising the tenets of socialism? Would it not be well for taxpayers to try and reduce the force to a proper working number able to do all the work the Board of Health is supposed to attend to? There is evidently too large an appropriation of money supplied to the Board at present when it can invest it in a business enterprise in competition with taxpayers. By what stretch of law has this Board discovered that its duty is to go into business as merchants and manufacturers?

We are pleased to note the fact that Dr. J. B. Murphy has undertaken to check the tide of spurious honor that the sensational newspapers have been trying to drown him in. He declares that these sensational reports have placed him and his work in a false light. He says that his new treatment has yet to be tested before it can properly be claimed to be a cure for consumption. It is only in the experimental stage and is a mere suggestion for professional men, and the fu-

ture alone can demonstrate its value. It is a pity that the newspapers ever got hold of this thing at all, and it may be that their exaggeration has already interfered seriously with advancement in the direction Dr. Murphy has pointed out.

The Olmsted yellow-fever bill that we commented upon not long since in the BULLETIN has at last been paid by the Atlanta Board of Health. It should never have been fought as, under the circumstances, the amount charged was very reasonable. We congratulate Dr. Olmstead on receiving his check for \$500 after so long a wait, and a vote of thanks is due the judge who stood by him when members of the medical profession were calling for a reduction. The reason doctors' fees average so much smaller than those of lawyers is that petty jealousy and spite seem to control the former more than the latter. A united profession would bring better pay and more respect to medical men than can ever be theirs while thus divided.

Mobile and New Orleans have been, metaphorically, making faces at each other for some time over what is called "Louisiana's Inexcusable Quarantine." It is charged that Louisiana is quarantining places known not to be infected and so violating every principle of true quarantine, and that, too, merely to satisfy the unreasonable fears of an ignorant public. The *Mobile Register* of July 8 says that "the light is breaking through the fog of the 'infernal quarantine' that afflicts this part of the world." Alabama seems to be converted to a national quarantine, and the papers are endeavoring to show that such a quarantine would not be opposed to States' rights. Will our States and cities adopt the Louisiana plan and keep out the brave boys from Santiago when they seek to return home because they have been exposed to yellow fever?

Kentucky has given all graduates of unrecognized colleges residing in the State, and all citizens who never pretended to graduate, but had been practising for a certain number of years in the State, an opportunity to come forth, pass an examination, and become bona-fide licentiates. The notice was sent out on June 21, and the time appointed for the examination was July 5. Although the State is said to contain a host of such irregulars, only one applicant appeared, and that a woman. Here is or should be a demonstration to the public of the fact that the pretenses of such practitioners are all false. A fair opportunity was

given them to prove their ability and they refused to accept of it, thus confessing their own ignorance. The Kentucky Board should now show such creatures no mercy. Had they not feared their own ability they would have thronged the examination-hall, even though unable to pass. Knowing themselves to be fraudulent pretenders they naturally kept away.

The St. Louis Board of Health seems to have almost as much trouble in finding something for its officers to do as has the New York Board. We learn from the St. Louis *Republic* that the former, in order to keep its officers busy, has declared war against weeds, and is about to begin forcing property-owners to cut down everything green that appears on their lots and cannot be classed as vegetables or flowers. Many of the citizens are complaining that this destruction of ragweed, Jamestown weed, ambrosia and the like will spoil the esthetic appearance of the suburban regions, and that the decomposing masses when cut will endanger health. The health-officers think that the pure oxygen exhaled and the carbon dioxide destroyed by the weeds render St. Louis air too strong for sanitarians, and they will therefore enforce the proposed new ordinance with all the vigor they possess. Having discovered that microbes are vegetables, and, practically, weeds, they see clearly that the future function of boards of health is to destroy all kinds of weeds instead of, as with the New York Board, cultivating them and getting from one to two dollars per bottle for the medicine they can make out of them.

PUBLISHERS' DEPARTMENT

FOR HAY-FEVER

The following formula has been recommended by a number of prominent specialists in the treatment of hay fever:

Quinine Hydrobromate.....	120 grn.
Antipyrine	15 grn.
Gum Camphor.....	1 dr.
Cocaine Hydrochlorate.....	15 grn.
Acid Hydrochloric.....	20 m.
Benzoin Nebulizing Fluid, Q. S.	4 ozs.

Ms. et. sig.:—Apply with nebulizer three to five times daily.

For further particulars, and for information relative to nebulizers, write the Globe Manufacturing Company, Battle Creek, Mich.

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with a swallow of water. Proprietors of other tablets would have had better success if they had given more thought to this question of prompt solubility. Antikamnia and its combination in tablet form are great favorites of ours, not because of their convenience alone, but also because of their therapeutic effects.—*The Journal of Practical Medicine.*

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THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba, and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set, one hundred and sixty pictures, for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C., M. & St. P. Ry., Chicago, Ill.

NEWS

During the examinations of the Pennsylvania Medical Examining Board at Philadelphia and Pittsburg on June 14 to 17, there were 317 candidates examined, and 44 of these failed to pass.

At a late meeting of the Council of the Ontario College of Physicians and Surgeons, Dr. Rogers, of Ottawa, proposed the raising of the standard of medical education, so that the degree of Bachelor of Arts should be demanded of all matriculants.

The Council of the Ontario College of Physicians and Surgeons has lately had to expel a number of its members for unprofessional conduct. One of these had traveled with a quack medical company, another had acted as diagnostician for Prof. (?) Munyon, still another had advertised himself as the greatest Canadian Specialist, and sailed under one or more aliases, while the rest had acted as parties to the sale and advertising of various quack remedies.

The *New York Medical Journal* says of the University of Pennsylvania that a department which some day may take rank with those now considered of most importance is that of physiological chemistry. Proper rooms are being prepared for work which will be devoted to the study of experimental physiology, and the whole floor once occupied by the dental department as an operative room will be given up to this subject, with a separate room for experimental therapeutics. The laboratory for experimental therapeutics will be used by Dr. H. C. Wood, who has for years used a smaller apartment. The laboratory for experimental physiology will be under the charge of Dr. John P. Arnold, of

the class of 1893. Dr. Arnold succeeded Dr. W. S. Carter, who was elected professor of physiology in the University of Texas.

The Saginaw Valley (Mich.) Medical Society held its last meeting of the season in a street-car on the way to a reception at the home of the president (Dr. Ostrom) at Riverside Park.

The physicians of Vineland, N. J., have united in an effort to down the dead beats. Delinquent patients who can but will not pay are to be placed on a black list. The newspapers call it a medical trust.

Yellow fever has broken out among the troops in Cuba. A number of deaths have occurred among them, and some fear has been expressed that it may get uncontrollable. It is supposed to have been brought to the camp by Cuban refugees from Santiago.

The last legislature of New Jersey passed a bill authorizing Governor Griggs to start in that state a village for epileptics. A commission composed of two ministers and three doctors has been appointed to select a site and an appropriation of \$15,000 allowed them.

Some of the very best surgeons of the United States are abandoning lucrative practices to serve the government in its present emergency. Their pay in the army will be but a small fraction of the amount they could earn at home. They obey the call of duty and ignore the temptation of Mammon.

Governor Voorhees, of New Jersey, inadvertently got himself into trouble by appointing a homeopathic physician along with two regulars on the Military Medical Board. There was at once a strike, and he was left in a quandary as to how he should settle it. He was advised to appoint homeopaths only on the board, but that would have left out his own brother.

The New Jersey State Medical Society, at its Asbury Park meeting on June 30, elected Dr. C. P. Fish, of Bound Brook, as president and Wm. J. Chandler, of Orange, as recording secretary. Dr. F. R. Bailey, of Elizabeth, was awarded the Fellows' Prize for the best medical essay. On June 29 there was an interesting discussion on "Milk as a Culture-medium and its Capacity to Spread Infectious Diseases." The next annual meeting will be at Deal.

The International Association of Railway Surgeons held its annual meeting at Toronto, Canada, on July 6, 7, and 8. On the last day of the convention interest centered around a spirited discussion on Surgical Shock. Sir Wm. Hingston, of Montreal, said that on one occasion he was called outside of Montreal to see a lady patient who after a railway shock had lain in bed four years, unable to move herself. "I examined her," went on Sir William, "and found there was nothing the matter physically. I told her father, who is an artisan, what I thought and that I believed I could thoroughly cure her if she was brought up to Montreal. He looked me all over, and then remarked: 'If I hadn't been told that you were a good doctor, I would have said you were the ——— fool I have ever seen in my life.' He paid me, however, and then said: 'Now I have done my part; do yours.' The lady came to Montreal, and after a good frightening was walking in 20 minutes, and in a week was able to go out shopping."

The New York *Sun* of July 7, says: "On the recommendation of Dr. William T. Jenkins

the Board of Health decided yesterday to put on public sale its antistreptococcic serum for the treatment of diseases caused by pus-poisoning and blood-poisoning. The Health Board has manufactured the serum for a year past, and has been furnishing it free of charge to various institutions in this city. The board has decided to send out a circular stating that it will gladly make bacteriological examinations free of charge of any suitable material sent from cases which have been treated or are to be treated with the serum. Physicians are instructed that they should procure with the greatest possible aseptic precautions specimens of blood from a vein, or pus, or other infected material and forward the same immediately to Dr. Herman M. Biggs, the department's pathologist, at the Research Laboratory, foot of East Sixteenth street. The serum is obtained from horses which have received subcutaneous inoculation of gradually increasing amounts of bouillon-cultures of a virulent streptococcus. The serum is all tested on rabbits. It is put up in vials of two sizes, one of ten cubic centimeters and the other of twenty. They will be sold for \$1 and \$2 each, with a discount of 25 per cent. to druggists."

Mr. Wm. Haaker, of New York city, in a circular just sent out to the members of the late Pure Food and Drug Congress at Washington, says: "I have frequently occasion to examine into the quality of canned goods, such as American sardines, salmon, tomatoes, corn, etc., and to note the action of the contents of cans on the tin plate. It seems that in the canning of American sardines and salmon a particularly poor grade of tin plate is being used. I have found in numerous examinations that the coating of the plate had entirely disappeared, showing the bare iron. Naturally this coating, composed mostly of lead, had been mixed and integrated with the fish, making them poisonous. I have noted similar defects in other canned goods. But these goods are being sold all the same, with apparently no one responsible for the consequences.

"No wonder, then, that so many cases of poisoning from eating articles of this kind are being continually recorded in the newspapers; moreover it may be safely assumed that such cases constitute only a very small percentage of the many which are constantly occurring and of which the horrible sufferings and deaths, from this cause, remain untold and shrouded in mystery.

"Aside, however, from the dangerous quality of the tin plate, there are other destructive agents used in the canning industry which need looking after and should be forbidden by law, the same as they have been prohibited in Germany and European countries for years past.

"I refer to the use of solder and acid in closing the cans hermetically. The solder is usually composed of 80 per cent. of lead and 20 per cent. of tin. It is a fit material for plumbers' use, but should never be used in canning food-articles. The acid is used for cleaning the seams to be soldered, but through the recklessness of workmen much of it, as also of the solder, comes in direct contact with the contents of the can, poisoning the same.

"There can be no excuse on the part of canners to continue the use of such dangerous agents, since the cans can be made perfectly air-tight without them, by the use of suitable machinery and at no greater cost; nor is the machinery expensive, and the improved method will pay for itself in a few seasons at the longest."

American Medico-Surgical Bulletin

Vol. XII.

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No. 15

EDITORIAL

YELLOW FEVER AMONG OUR TROOPS AT SANTIAGO

ONE of the saddest incidents of the present war is the attack of our troops by the dreadful scourge of Cuba—yellow fever. Notwithstanding the fact that there has been an official recognition of the disease as such there are those who seem to think that it is not yellow fever at all, but what is known in Texas and other parts of the South as dengue and in Porto Rico as “calentura.” These men do not seem to know that every form of disease can exist in all possible degrees from the most violent to the extremely mild forms that occur as mere conditions of slight indisposition. Not only individuals can be attacked mildly, but there can be epidemics of a mild character in which the characteristic symptoms do not develop. As the early or mild signs of all diseases converge toward simple febrile states the milder the attack of any given disease happens to be the more difficult it is to differentiate it from other kindred diseases. Indeed, there is a point where correct diagnosis, except by inference from the knowledge that a certain kind of contagion is present, is utterly impossible. In the Santiago attack the progressively falling pulse-rate, the lassitude, the pains in the back and loins, the giddiness and headache, the constipation,

the tendency to perspire, and finally in the worst cases the albuminuria, hemorrhage, icterus, and black vomit make the matter one in which there can be no room for doubt.

The multitude of cases thus far reported, with the small number of fatal ones, has caused the lay press to give medical science a large amount of praise that is not its just due. “It is impossible,” says one editor, “for yellow fever ever again to rage as it did twenty years ago.” He bases this statement on his conception of what medical science can do in checking its virulence. He has no doubt some foundation for this optimistic claim in that the cleansing of cities and harbors is reducing the chances of the virus accumulating in such vast quantities as it probably was able to do before any effort had been made in this direction. But his idea is that the attending doctors are able to keep cases from becoming severe. Even Sanarelli does not claim such virtue for his serum unless it has been used prior to an attack. He holds that it acts as a preventative of the development of the germ, but cannot mitigate the violence of the poison already developed within the system. That we have not yet learned enough to keep entirely down severe cases when once they have incubated is seen in those raging at Sao Paulo, Brazil, that Sanarelli tells us are “so severe as to be comparable only to the legendary invasions of the plague in the Middle Ages.” This

invasion has given him a good chance to fairly try his serum, and in the jail at San Carlos de Pinhal those prisoners that were treated in advance with it all escaped without taking the disease, while the remainder were stricken down. We can but sincerely hope that these reports are true. In view of the great probability of their being true an effort should be made to secure a supply of the serum for use among those whose duties compel them to become exposed at Santiago and elsewhere in the Antilles and who are not known to be immune.

In Santiago two immune Louisiana regiments have been selected for duty to relieve the northern troops from so dangerous a situation, while all those that during the siege were compelled to occupy flooded trenches have now gone to high and dry ground. None of the men who were in service at Santiago is going to be sent to Porto Rico for fear of their carrying the yellow-fever germs with them. It is quite likely that they will not be called into active service again until Havana is invaded, and there is very little probability of this occurring before the healthier autumn weather has come. In the meantime most of them will be returned to the United States and perhaps peace will be declared so that they will not be called into service again. Should such good fortune not await them it is to be hoped that some effort will be made to compel them to obey the instructions they received concerning the boiling of drinking-water, avoiding sleeping or lying on damp ground, with the other sanitary directions given them. It is asserted that even when the stern necessities of actual war were not forcing them to become reckless little or no attention was paid to the sanitary orders issued from Washington.

Before our troops entered Cuba there was a great deal of talk about sending only im-

mune soldiers to that island to carry on the war until the rainy season had passed. For some reason this eminently wise policy could not be carried out and as a result thousands of our troops at Santiago have been stricken with disease. There is certainly no room for surprise in this as only the expected has occurred. Spain's most powerful ally has come to her aid and is getting in its deadly work in the very midst of our victory. To fight the soldiers of Spain is a comparatively easy task, because we know just how to effectually attack them. To fight yellow fever and other diseases of the tropics is not so easy, because we are compelled to strike at foes we do not and cannot see. No one knows just when or where or how their deadly work is going to begin, and even after it has begun we cannot with any degree of certainty say how they reached us or where they came from. In the present instance the poor Cuban refugees from Santiago are blamed for carrying the deadly germs of yellow fever into the American camp. It may be possible that they were the innocent cause of this terrible invasion of disease, but it is also possible that they had nothing to do with it. Unscientific minds are always satisfied with a single plausible theory to account for the occurrence of events in which they are interested, while scientific minds are not content until they have exhausted every possible explanation and by elimination have excluded one by one the untenable. Is there not some other way of explaining the carrying of the disease germs among our soldiers?

The first news we got of the breaking out of the disease came to us by way of Madrid. It was then denied, but two days later we were informed that the officials at Washington were alarmed over reports of sickness in the army. Later still we learned that fourteen cases of yellow fever had oc-

curred among the men of the Commissary Department, and as these were the men that had been most in contact with the Cuban refugees while feeding them it was natural to assume that during this contact the disease had been caught. After a lapse of two weeks the number of cases of sickness reported was over 4000, a large part of which was of yellow fever. Is it reasonable to assume that the mere contact of these refugees should in so short a time have caused the development of so many cases? Does yellow fever act in that way? Have we any evidence of its ever having pursued such a rapid course under circumstances at all analogous to these? It is evident that experts do not look at the matter in this way. General Sternberg is reported as saying that yellow fever is not ordinarily so carried, and Dr. Doty, the Health-Officer of the Port of New York, has so little faith in the theory that he has advised the removal of patients to New York and other northern cities for treatment. Some of the infected Santiago regiments are likely to be transferred to Montauk Point on Long Island, where they will be near New York city, the largest center of population on the continent, and where, if mere contact was the sole element in the spread of the disease, the danger would be at its worst. The vast number of men attacked at Santiago and the brief time that elapsed after the first fourteen cases before the general epidemic began, negatives the supposition that the refugees brought it to the camp.

A study of the restrictions of the disease in other epidemics, the slowness with which it ordinarily spreads, the way epidemics are stopped by clumps of shrubbery, tall fences, underbrush, walls, etc., all go to show that it is an exceedingly rare thing for people to carry it about upon their clothes. No such obstructions or limitations would arrest their movements. Dr. Toutre, in his

recent work on yellow fever, gives on page 152 an illustration of the ordinary non-contagious character of the disease. Of course he acknowledges that it is sometimes contagious, but he gives his experience with it. He says: "At the hospital of the French Society, where over 1000 cases of yellow fever have been treated by me, I have never observed one case starting from within. In 1867 I had five male nurses, of whom three were non-acclimated; all remained free from the disease."

It is, however, quite true that there is evidence that the yellow-fever germ can be carried from place to place by people. There is also evidence that it has been carried by clothes. There is proof that those who have attended to the sick as nurses, priests, and physicians have taken the disease from them. It is quite well known that a very small supply of the specific poison can multiply into a very large amount. On the other hand there is a mass of facts that seem to show that it is an exception and not the rule for it to be carried directly from one sick person to another in the way that scarlet fever or measles is. The disease multiplies, but the multiplication occurs in the environment and not in the patients. If left to spread between patient and patient only, it would cease entirely in less than a year. Winter weather could not destroy it, nor would its ravages be confined to navigable rivers and seaports, if its place of multiplication was within the bodies of its victims. Its normal place of multiplying would seem to be the soil, water, food, on plants, on animals, or in or upon two or more of these. That the germs that produced the Santiago epidemic did not emanate from the soil as a miasma seems evident from the fact that the men who worked in the trenches were the last to succumb. The first fourteen victims were those who would not have

taken the disease at all or else would have been the last to take it if the soil had conveyed it to them. There is very little reason for suspecting the water as the source, as it came from the hills where we least expect to find this disease.

WHAT WAS THE ORIGIN OF THE SANTIAGO EPIDEMIC?

WHEN Sanarelli published to the world his discovery of the *Bacillus icteroides* he said: "I have seen on several occasions gelatin remain sterile after the implantation of the *Bacillus icteroides* at the same time that agar sown simultaneously showed a growth. However, if some mold reached it in time and developed its mycelium, there appeared immediately around the latter, in the gelatin, a ring of small punctiform colonies of *Bacillus icteroides*. This strange parasitical phenomenon may be the cause of the easy acclimation of yellow fever on shipboard, where moist heat and the lack of ventilation favor the development of mold, the latter being indirectly favorable to the vitality of the *Bacillus icteroides*."

In sultry, wet weather, such as our soldiers had to endure just before the outbreak of the present epidemic of fever, where could one expect to find a more favorable place for the development of ordinary mold than in the commissary department of an army? Twenty-four hours of such weather in such a place would be apt to see the development of *Aspergillus*, *Helminthosporium*, *Penicillium*, *Mucor*, or similar forms on crackers, bread, flour, eggs, and other articles of food. If these favor the development of yellow-fever germs then there was certainly a very paradise of conditions for them. In the handling of these infected articles the men who dispensed them could not avoid being the first to take the disease. Later on the soldiers who ate them would be the next to

suffer. It is not an uncommon thing for crackers to be moldy before the box containing them has been opened. In a damp, hot clime it would be almost miraculous to find a box untainted. Once let the *Bacillus icteroides* get a start in these favorable conditions and one can readily guess the results. Is it not reasonable to suppose that it would multiply with unwonted rapidity? In Santiago and the neighboring villages could have been found, any day before our soldiers landed, a multitude of workers that delighted in rolling, wading through, and tumbling in the filthiest, moldiest, dirtiest places there, until their feet and bodies were covered with an abundance of the filthiest of filth. After the landing of our soldiers they continued these disgusting practises but great numbers of them made their way to the American camp. Their favorite haunt became the Commissary Department. They took particular delight in walking over the crackers, bread, and other provisions of the men. They wiped off the El Caney and Santiago filth upon these provisions, while little or nothing was done to drive them away. They came directly from the beds of yellow-fever patients, from wallowing in the discharges of these same patients, and from every possible source whence the *Bacillus icteroides* might be carried. They were Cuban refugees, but of a different kind from those that have had to bear the blame of carrying the disease. The workers here referred to are the flies. How easy it was for them to carry the germs of yellow fever and plant them in the rations of the soldiers! How natural it was for the Commissary to be the first place invaded! They could easily sow the germs there that in a few days would become numerous enough to produce sufficient poison to affect the entire camp. Some of the soldiers might only get enough to make them slightly indisposed, others would take in

sufficient to produce mild febrile conditions, still others would have a large enough dose to make them too sick to attend to their duties, and finally some poor fellows would be so unfortunate as to take in enough to overcome the power of resistance of their bodies and prove fatal. That every case of such a disease as yellow fever is not malignant depends upon the amount of virus imbibed, the intensity of that virus, and the resisting power of the body. With great resisting power a larger amount is necessary to prove dangerous or fatal. With attenuated virus a larger amount is needed to produce serious effects. Of any kind of virus, providing it can overcome the resistance it meets, it is reasonable to expect that it will be able to produce serious results if enough is taken into the circulation.

The multiplication of cases under conditions unfavorable to the patients intensifies the virus as well as multiplying it in quantity so that should our troops under present conditions be left at Santiago long, future cases would likely be more malignant.

We do not know through what channel the virus of yellow fever enters the body. It may be by the air-passages, the stomach, slight abrasions, insect-punctures, or the like. If it enters through the stomach at any time then it is quite likely that it has been choosing that passage at Santiago. One can hardly imagine that in a condition of constant deluge it could become dry enough in any of the tents to have dust floating around in sufficient abundance to carry germs for the infection of a whole army. It has been shown by Sanarelli that the *Bacillus icteroides* can stand a good deal of desiccation without being killed. This would seem to indicate that in dry times it may be borne by the wind much as the germs of tuberculosis are. In such weather as they have had at Santiago, if at all wind-borne, it is quite likely that it was while

adhering to the legs, wings, or bodies of flies, flying ants, or mosquitoes. As these insects are frequently tempest-tossed we may see in this an explanation for some of the strange restrictions that the distribution of the disease has elsewhere encountered. This would account for the stopping of its spread by hedges, clumps of bushes, fences, and the like.

If the virus enters through abrasions, punctures, and the like there is certainly no lack of opportunity in a tropical region where men are digging trenches and using firearms. The supply of insects capable of inoculating them is unstinted. If the stinging insects of Santiago do enough wandering from place to place, and like house-flies wallow in filth, they perhaps were the guilty ones that brought about the epidemic. Only by guarding against these in future can we be sure that every place is secure and protection complete. Flies, insects, and moldy provisions should be looked after with as much care and determination as old houses that are ordered to be burned and water that has been ordered to be boiled. An unlimited supply of fly-paper and a resort to every known means of destroying or keeping off stinging insects would at least make life more endurable for the soldiers and might prove to be the best prophylactic against yellow fever. All the food they eat should, just before taking it, be subjected to the action of a high temperature. To strike only at a few of the possible sources of danger is to lay ourselves open to many chances of attack. To guard every possible path of entrance is to be sure that we guard the right one. To leave only one unguarded is, if that one happens to be the channel of contagion, to make all our work worthless. Indeed it makes it worse than worthless, for its falsity proves a fool's paradise, making us content when a little discontent might have saved us.

AMONG THE EDITORS

A MEDICAL DUTY

In May, 1900, will occur in the city of Washington, the eighth decennial convention to direct the revision of the United States Pharmacopœia. All medical colleges and state medical societies will be invited to send delegates. It is rather to the discredit of the medical profession that the pharmacal delegates to the convention of 1890 outnumbered the medical, whereas the Pharmacopœia was originated by, and for some years revised entirely under the direction of, the medical profession. A very noticeable feature in the convention of 1890 was the large number of pharmaceutical societies represented by delegates in contrast to the comparatively small number of medical societies so represented. The colleges of medicine were only fairly represented, being exceeded by colleges of pharmacy.

The advantage of a large pharmacal influence in the revision of the book is apparent in the great improvements made in the last two editions; but, in view of the tendency to delegate its issue more and more to the pharmacist, it may be proper now to remind the medical profession that it is a book that we cannot afford to neglect.

We are pleased to note that the Medical Society of the State of New York, through a committee on United States Pharmacopœia, is doing work along needed lines and it is hoped that other state societies will follow its example. In the first annual report of this committee several items were presented for discussion during the year. Among them we note the following which appears to us to be particularly worthy of consideration: "That a section (of the Pharmacopœia) be devoted to giving reliable information concerning new remedies, without making them in any sense official; and that an annual supplement be issued for the purpose of continuing the same kind of information."

The Committee of Revision of the United States Pharmacopœia, with an extension of its powers, would be just the body to direct

the research necessary to furnish us information concerning new remedies, which need not thereby be made in any sense "official." Indeed, in case of certain substances the information might be condemnatory. If the committee were to issue a small annual supplement of that character it would, in our opinion, lead to a speedy recognition by many more physicians of the place and value of the Pharmacopœia; and if the supplements could not be obtained except by purchasing the book, we predict that there would be a great increase in the sale of the latter, which in turn would furnish means for carrying on the necessary research work.—*Medical News.*

A WHIFF OF TOBACCO

We do not want to rail at tobacco, but just to draw a little moral from a whiff of smoke. Go where one will the nose, the eyes, and even the throat and bronchial tubes are assailed by smoke, that is by a cloud of particles, every one of which has come direct out of someone else's mouth. It is not a nice idea, but let us see what else it teaches. The fumes do but make visible what is happening all the day whether we smoke or not. Each of the tiny particles of carbon or condensed vapor which in their millions make up a wreath of smoke, does but indicate the track taken by a corresponding particle of expired air, which, if it can carry the visible carbon, can still more easily carry the invisible microbe. Thus a whiff of smoke entering our nostrils and penetrating our lungs does but show the course which might be taken just as easily by a swarm of microbes, and serves to demonstrate one at least of the ways in which a crowded life passed in close community with our fellows leads to mischief. The passage of a whiff of smoke from mouth to mouth does, in fact, but illustrate the mode in which the well-recognized evils of rebreathing expired air are produced. It is not the air but what the air carries with it that does the harm. What is illustrated by tobacco-smoke is sometimes proved in another way. In the bright sunbeams motes are said to dance, and by careful watching one may see not only how numerous these motes are, but of what nasty stuff

they are not infrequently composed. The wheezy flower-seller coughing over his tray of violets, the loud-voiced hawker shouting over his barrow of strawberries, the sniffing child sneezing at the street-corner, the panting person who *will* shake out his handkerchief in the 'bus before using it, even polite people talking to each other, are all doing things which on a dull day seem innocuous enough. Let the sun shine, however, and the tell-tale sunbeams soon display the showers of saliva and the crowds of dust which are thus scattered in the air and can almost be traced from mouth to mouth. This is esthetically abominable, but in the vast majority of cases probably does no harm. Here and there, however, these particles come from people who are diseased, and carry diseases to those who are healthy. The rebreathing of expired air is certainly one cause of disease, especially to those who live in towns and in close dwellings; and how real is the risk, and how readily the passage of solid particles from man to man and from mouth to mouth is accomplished, is made manifest every time a whiff of tobacco makes us cough.—*The Hospital*.

THE TRIBUTE OF EUROPE

It is a very gratifying sign of the expanding civilization of this country that European writers are beginning to quote freely, and often, from American scientific literature. In paleontology, in astronomy, and in certain branches of physics, Americans have won for themselves a proud name in the centers of learning of the old world, but probably no science has contributed more toward gaining the coveted recognition than medicine. A few years ago a citation from a medical writer of this country in a German or French work was one of the rarest of things, but no important monograph or essay is published at the present day, especially in Germany, that does not contain liberal references to the writings of American physicians. There is also noticeable a constant augmentation of the number and an increase in the length of the abstracts from our journals in the wonderful *Centralblätter* in which Germany is so rich.

And some of the journals even, *e. g.*, the *Münchener medicinische Wochenschrift*, publish, from time to time, in their latest-literature columns, extensive quotations from the American medical press. In Germany, where medicine forms such a large part of what we may call the body of national science, this is of great importance, and it will secure for this country the respectful regard of those from whom neither successful trade-efforts nor martial victories can wring words of praise. We may be indifferent as to what is thought of our form of government or our national character—for we know that opinions on those subjects are often tinged with prejudice—but we cannot be otherwise than sensitive with regard to the estimation in which our scientific attainments are held—for every well-informed individual must acknowledge that the learning of Europe is greater than our own. To strive for the good opinion of the great master minds of the old world is *not* an ignoble or unmanly ambition.—*Philadelphia Medical Journal*.

VENESECTION

Every now and then solitary efforts are made to rehabilitate bleeding as an important therapeutic measure. It is admitted by many thoughtful modern physicians that venesection in certain selected cases is of inestimable value, but in spite of such admission the measure has practically been totally abandoned, occasional spasmodic efforts to reinstate it into its proper sphere of usefulness notwithstanding. If a man of such merits and scientific standing in the profession as Hensch states in his work on "Diseases of Children," that he has seen cases of inflammation of internal organs where venesection seemed to be surprisingly successful, and that he believes that he might possibly have saved many a child had he not been affected by the contagion of the present trend of thought with regard to the fear of bleeding, it is significant and characteristic of the modern want of independence in employing therapeutic measures that have become obsolete, although it is admitted that such measures are of much value in certain cases.—*Medical Review*.

CURRENT TOPICS

THE TOBACCO HABIT AS A CAUSE OF DISEASE

Dr. W. E. Brownson (*North Carolina Med. Jour.*, May, 1898) finds that in addition to those usually found, such morbid conditions as the following may result from the immoderate use of tobacco: Chorea, epilepsy, insanity; functional heart-diseases resulting in dilation, hypertrophy, and perhaps valvular changes; neurasthenia, the atonic voice, mental irritability, morbid fear, anthrophobia, gynephobia, pathophobia, frequent blushing, profuse sweating, tremor, nervous chills and flushes of heat, temporary paralysis, and possibly tabes dorsalis, general paresis, arteriosclerosis, and angina pectoris. Amblyopia and chronic congestion in the upper air-passages are undoubtedly caused by tobacco used in excess. G.

THE DIAZO-REACTION OF THE URINE IN NURSINGS

The *Jour. de Cliniq. et de Thérap. inf.* (No. 43, pp. 852, 853, 1897) contains the following from *Vratch* by Oumikoff. The diazo-reaction, called also Ehrlich's reaction, is this:

(a) Sulphanilic acid, 5 cc.; hydrochloric acid, 50 cc.; distilled water, 1000 cc.

(b) Sodium nitrite, .5; distilled water, 100.

Take 40 cc. of (a) and 1 cc. of (b), and to the mixture add an equal quantity of urine. Allow ammonia to flow down the tube till the reaction is alkaline. Then shake and produce a foam. Normal urine does not change, but pathological urine gives an orange-red ring and a rose-red foam.

Ehrlich says that (1) this reaction is not obtained with the urine of healthy people; (2) apyretic diseases, except pulmonary tuberculosis, never give it; (3) of febrile diseases, typhoid and measles always give it; fibrous pneumonia, scarlatina, and diphtheria never give it; all other febrile diseases sometimes give it, sometimes do not. The above referred to adults.

The author made researches on 147 nurslings and reached the following conclusions:

1. The diazo-reaction is never obtained with the urine of healthy children.

2. A high temperature does not affect its appearance.

3. Pneumonia does not give it.

4. Diphtheria and varicella are unfavorable to it.

5. Otitis media, coryza, eczema of the face, adenitis, hereditary syphilis, laryn-

gitis, bronchitis, pleurisy, acute enteritis, colitis, erythema from antidiphtheritic serum do not favor it.

6. Erysipelas and measles almost always give it.

7. The action is much more pronounced the more severe the condition of erysipelas and measles, and is less and less pronounced in proportion as the gravity of the disease diminishes. In fatal cases, however, the reaction remains intense to the last. There is a direct relation between the gravity of the disease and the intensity of the reaction.

8. In any disease whatever in children the reaction appears in the last two days before death, and hence is of great prognostic value.

9. The reaction is sometimes seen in the prodromic period in measles. H.

CURIOSITIES OF FILTRATION

The *Scientific American* of May 7 says:

In Sir E. Frankland's annual report on metropolitan water just published by the Local Government board some very curious details may be found in regard to the results of the filtration to which London water is subjected, all of which tend to support the statements recently made by the London Hospital as to the extreme variability of the filtered product. Take, for example, the West Middlesex, which month after month supplies its customers with water of a high degree of purity, containing on one occasion only four microbes per cubic centimeter and on another appearing to be absolutely sterile. Of what advantage, however, is this if, on another occasion, the number mounts up to 120, and on still another to 576 microbes per cubic centimeter? Something happened in the month of June to nearly all the filters.

"Of the five companies drawing from the Thames, all except the Southwark were smitten with this microbial epidemic in June, and even the Southwark had got it on the 2d of the following month. Of the two companies drawing from the Lee, the New River alone escaped." So serious was the condition that, from the tables given to show the reduction of microorganisms by filtration alone, we find that in one case 66.3 per cent. of the microbes passed the filters.

Lest, however, we should be tempted to cast ourselves upon Providence in these matters, and think that this "microbial epidemic" was some widespread fatality that no company could escape from, it is worth while to look further into the matter, when we find that where separate filter-beds were separately examined, as we have maintained ought always to be done, a very great dif-

ference was demonstrated in their activity. While one of the Grand Junction filters was passing sixteen and another fifty-six microbes per cubic centimeter, another was passing 1,080! What this has to do with the construction of the filters and what can be done to improve them is another matter; but Sir E. Frankland seems to be on the right track when he draws attention to "the enormous advantage of fine sand in securing efficient filtration." Some companies go to the trouble of using much finer sand than others with apparently good results. "Thus: 1.8 feet of the fine sand of the New River Company and 2.75 feet of that of the West Middlesex Company are respectively more than twice as efficient as 4 feet of the coarser material used by the Chelsea Company."

HEART-DISEASE FROM THE STANDPOINT OF LIFE-INSURANCE

R. H. Babcock (*Medicine*, Vol. IV, No. 3, p. 177) discusses some of the reasons that influence the attitude of most companies toward refusing applicants whose hearts or pulse-beats deviate from the normal as follows: A pulse-rate persistently above ninety or below sixty—and habitual arrhythmia.

The writer argues that it is unjust to exclude them altogether, and would have all companies establish under-average ratings; he believes, furthermore, that the attitude of the companies toward their examiners is one of distrust of their ability to make reliable reports on the condition of sufferers from cardiac troubles, and to judge of the likelihood of such persons to live out their expectancy. He relates a conversation some years ago with the general manager of one of the two largest insurance companies in the East, in which the latter stated that he attached so little importance to a medical examination that if his chief examiner in Chicago were to forget his medical knowledge the next day he would still retain him in his place, because of his knowledge of men and conditions.

Tachycardia of ninety or 100 is often due to the perturbation of an examination, and often subsides before the examination is over, or upon a subsequent sitting; again, it may be due to tea, coffee, or tobacco, or it may be natural to some individuals.

As regards a cardiac murmur it should not have undue weight attached to it, since it is the least important, although the most easily recognized sign of heart-disease; its intensity also is no criterion of its gravity; on the other hand, a dangerous

lesion may be declared by no murmur at all. There is a type of individuals, robust-looking men of large frame and ample chests, who are apt to be accepted as first-class risks, and who illustrate the importance of an accurate determination of the relative and not alone the absolute cardiac dulness. For the most part they are hearty feeders, who habitually take an excess of food, eating meat three times a day, who take comparatively little outdoor exercise, and who are of active mentality or have great responsibility. If the heart of such a man be examined, absolute dulness is usually normal, whereas deep percussion will reveal an increase of relative dulness sufficient to constitute cardiac enlargement. Owing to his sedentary habits such an individual develops persistently high arterial tension, leading finally to hypertrophy and dilatation. These are the risks which so often die unexpectedly in the fifties or early sixties of what is called "heart-failure." Dwelling upon some of the conditions which should determine one's opinion of the likelihood of an applicant with a compensated mitral insufficiency or aortic stenosis living out his expectancy, the writer regards the tendency to recurring attacks of articular rheumatism, or a gonorrhea or some other infectious disease present and liable to set up fresh endocarditis, as of unfavorable prognosis. Age also influences the prognosis, as if the person be beyond middle age it is probably of sclerotic origin and progressive.

The occupation is of utmost importance since, if it subject the individual to vicissitudes of weather or to cardiac strain from undue exercise or physical strain, compensation is not likely to be long maintained.

L.

THE ACTION OF HEAT ON DIASTASE

In Pflügler's *Archiv.*, Vol. XXIX, p. 115, A. Pugliese shows that there are different varieties of diastase, if one reasons from the varying action of heat and chemical agents upon this ferment. He shows that the action of heat on the diastase of the saliva is different from that with the diastase of malt. The former if heated to 107° F. undergoes no deterioration, while if the diastase of malt is heated to such a temperature its action is hindered. Under ordinary temperatures a certain amount of weak alkali hinders the action of some diastase. This is done away with if the diastase, or liquid containing it, is slightly heated. He states that there are no essential or structural differences between animal and vegetable diastases.

J.

ORIGINAL PAPER

CONJUNCTIVITIS

By JOHN B. HUBER, A.M., M.D.,

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THE conjunctiva is a mucous membrane which lines the inner surface of the eyelids and is reflected, above and below, over the anterior surfaces of the sclera and the cornea. The folds are called the superior and inferior palpebral folds or fornices. Upon the cornea the conjunctiva consists only of epithelium, which constitutes the anterior layer of the cornea. To inspect the conjunctiva direct the patient to look downward. Seize gently the edge of the upper lid with the thumb and forefinger of one hand and draw the lid downward and away from the eyeball. Place the point of the other thumb between the supra-orbital ridge and the eyeball (not upon the ball); then evert the lid. The lower lid is easily inspected if the patient be directed to look upward.

In this paper the following affections of the conjunctiva will be considered with especial reference to their recognition and treatment:

Hyperemia of the conjunctiva, muco-purulent conjunctivitis, gonorrheal conjunctivitis, ophthalmia neonatorum, plastic conjunctivitis, granular conjunctivitis, phlyctenular eruption.

In all the above forms except the last the following local symptoms are usually observed: Suffused redness, lighter near the cornea and denser near the periphery, swelling and increase of secretion, either of tears, serum, mucus or pus; this secretion is likely to be contagious.

Hyperemia of the conjunctiva is a congestion—which may be due to exposure, to fatigue, to irritants, such as smoke or dust, or to eye-strain when there are errors in refraction. It may accompany nasal catarrh, or acute febrile attacks or some inflammatory skin-diseases. It occurs in rheumatism and alcoholism.

There are slight pain and photophobia. A pink hue is suffused over the membrane and there is an increased secretion of tears.

Treatment: remove the cause. Locally a drop of one of the following solutions (of which the first is perhaps the best), should be put between the lids t.i.d.; soda biborate grn. viii in aqua lauroserasi 3 i and distilled water 3 iii—or potash alum grn. v in distilled water 3 i—or soda biborate grn. x in camphor water 3 i. If one of these is not effectual the alum crystal may be applied daily.

Muco-purulent conjunctivitis is also called catarrhal or simple conjunctivitis. Here there is muco-purulent discharge, which is contagious. It is caused by transmission of contagium, by exposure, and by irritating substances. It occurs in some of the fevers and in the strumous diathesis. Poor health and bad hygiene predispose to it.

There is pain, usually not severe and rather in the nature of a gritty or a sandy feeling in the eye, and there are redness, swelling, spasm of the lid, and discharge, the last appearing on about the second day.

Conjunctivitis is most often mistaken for iritis. A differential diagnosis is appropriate here; it is conveniently made in parallel columns, as follows:

CONJUNCTIVITIS	IRITIS
1. The congestion is diffused but denser near the periphery and lighter near the cornea.	The congestion is most marked around the cornea; circumcorneal injection.
2. Pupils dilate and contract easily.	Pupils sluggish and apt to be immovable.
3. Sight not impaired.	Sight impaired.
4. Photophobia usually absent.	Photophobia usually present.
5. Discharge more or less thick.	Flow of tears only.
6. Rather a sandy or gritty sensation than pain.	Pain severe, worse at night and extending along the trifacial nerve.
7. Conjunctiva swollen, sometimes chemotic.	Conjunctiva not swollen.
8. Iris unchanged in color.	Iris more or less changed in color.
9. No synechiæ.	Synechiæ very likely.

Treatment: Prophylaxis is important, the discharge being contagious. Towels, or any other article that may have come in

contact with the secretion, must be destroyed or disinfected, and no one else should use these things. The patient's attendants must guard against contagion.

The eyes should not be used. Wash out the membrane with saturated solution of boracic acid (1-25) as often as secretion forms. Cold wet compresses should be kept constantly upon the lids. Don't use astringents until muco-purulent secretion appears; then twice or thrice a day drop between the lids a few drops of a solution (grn. ii— $\frac{3}{4}$) of silver nitrate. Or better still evert the lids and apply daily to the parts affected a 5 grn. to the ounce solution of this drug, using a camel's-hair brush or a pledget of cotton wrapped about the end of a toothpick or a probe. Or instead the stick of pure copper sulphate may be applied daily; this last is very painful. Of the inflammation with the production of pus there are three forms, purulent and gonorrheal conjunctivitis and ophthalmia neonatorum.

Purulent conjunctivitis may grow out of a neglected case of the muco-purulent type, or it may be caused by granular lids or by the secretion of diphtheritic conjunctivitis. In some cases it seems to be spontaneous in origin. It differs only in etiology from the gonorrheal form, and as the latter is by far more frequent, the symptoms and treatment of the former will be described under that heading.

In gonorrheal conjunctivitis discharges either of simple or of gonorrheal urethritis, of gleet, or of leucorrhea that are brought in contact with the eye are the sources of contagion; the inflammation is most virulent when the gonococcus of Neisser is present.

Among some of the laity there is an odd belief that it is good for sore eyes to wash them with urine; thus women who have leucorrhea convey the contagium to the eyes.

Within two days after inoculation there will be itching and redness. Then there is deep congestion and the conjunctiva looks velvety, or ecchymosis may appear. The membrane bleeds easily. The discharge is at first serous, then creamy; sometimes it is slightly greenish. The lids are swollen,

chemotic and hot. The infiltration may extend to the temporal region. The upper lid may overlap the lower, or they may stick together, so that when they are parted pus will spurt out.

Ulceration or destruction of the cornea may result, either from diminution of its blood-supply by pressure, or the local influence of the discharge or by extension of the inflammation. There may be complete perforation followed by protrusion of the iris or the lens and by destruction of the eyeball. Possibly meningitis and death may result.

Throughout the disease there is great pain. The prognosis is grave. There is great danger of partial or complete blindness (which would be irretrievable), through destruction of corneal tissue.

Treatment. Prophylaxis. The attendants would do well to wear spectacles made of watch-glasses. Towels, handkerchiefs, or any other thing which may have come in contact with the discharge should be destroyed or soaked in an antiseptic solution, e. g., chloride of lime $\frac{3}{4}$ ss in one gallon of water. The patient must use his own linen, which no one else must handle.

There should be a day and a night nurse. They should be conscientious and tireless, for they will have a great deal of serious work to do. The patient must go to bed; his sound eye should be protected as follows: A watch-glass should be fitted between two pieces of rubber plaster $4\frac{1}{2}$ and 4 inches square. In the centers of these pieces holes should be cut for the patient to see through. This is then fastened to the nose, forehead, and cheek, leaving a hole at the outer angle for ventilation.

Cleanliness, the use of cold, and the application of an astringent, are essential measures.

The discharge must be removed by means of a boracic-acid solution (1-25), which may be squeezed from cotton or syringed from a rubber bulb. For this purpose the lids may have to be raised from the globe by means of elevators made for that purpose. The pus may be removed from the fornices by means of a camel's-hair brush or of pledgets of cotton (preferably the latter) soaked in the above so-

lution. All this must be done gently, but thoroughly, as often as the secretion appears, probably every hour, perhaps every fifteen minutes. To prevent the sticking together of the lids, their edges should be anointed with vaseline or a simple ointment. A cake of ice must be at the bedside, upon which are placed pieces of muslin large enough to cover the skin over the inflamed surface; these pieces are renewed every other minute, so that there will be constant application of cold. Or a small piece of ice wrapped in muslin may be applied. Astringents should not be used until pus has formed. Then nitrate of silver should be employed. The use of this remedy calls for much judgment, and only the physician should use it. It should be applied once or twice a day on every other day, in strength varying from 5 to 20 grn. to the ounce. Gr. x— $\frac{3}{4}$ is appropriate to most cases. Its strength and the frequency of its application will depend upon whether the discharge is mitigated. It must be reapplied whenever the secretion appears to be increasing. It should not be dropped between the lids, but should be applied on a pledget of cotton wrapped about the end of a toothpick, or on a camel's-hair brush directly to the affected part, the lids being everted for that purpose. The application should be continued some fifteen seconds, or until the membrane takes on a light-gray hue. Then iced water should be used to wash off the superfluous silver. Before making this application, which would otherwise be extremely painful, a 4-per-cent. solution of cocaine must be dropped between the lids.

In full-blooded people it may be necessary to apply half a dozen leeches to the temple. Or the artificial leech may be applied. This is a hollow hemisphere of rubber. The skin is scarified and then the leech is applied like a sucker; it soon fills up with blood.

Canthotomy may have to be done to relieve tension by bleeding and by relaxing the parts. By knife or by scissors the outer angle must be cut through down to the bone and about one-half inch posterior to it. Or the orbital conjunctiva around the cornea may be scarified for the same reason.

These measures are especially indicated if there is danger of involvement of the cornea.

If ulceration of the cornea appears we must drop upon it a few drops of a solution (gr. ii— $\frac{3}{4}$) of atropine; this should be repeated every three to six hours.

Whenever ulceration of the cornea occurs the use of silver nitrate is contra-indicated; nevertheless under these circumstances the silver must be used.

We may have to give morphine in small doses, or the bromides with chloral to relieve the sometimes intense suffering.

Other antiseptics are sometimes substituted for boric acid, e. g.:

Bichloride of mercury, solution 1-10,000; in severe cases 1-5000 or even 1-3000 is used.

Labarraque's solution (Liquor sodæ chlorinatæ), 1—7-10 parts water.

Hydrogen peroxide, 3-per-cent. by weight solution.

Permanganate of potash, 1-per-cent. to 10-per-cent. solution. Formaldehyde 40-per-cent. solution.

Boric acid seems however to give best results. For the nitrate-of-silver solution the stick of nitrate of silver one part with nitrate of potash two parts is sometimes used in severe cases; the method of application is the same.

An instrument for constant irrigation is to be had that consists of a hard-rubber tube with a perforated flange-like expansion, which is introduced under the lids in such a way that they may be closed over it.

In ophthalmia neonatorum the eyes of the new-born are infected during birth with the discharge, either leucorrhœal or gonorrhœal, from the mother's vagina; if the gonococcus is present the disease is more virulent and lasts about eight weeks—otherwise the disease is comparatively milder and lasts about five weeks. Infection is especially likely in face-presentations and in retarded labors.

Three days after birth swelling, redness, and a watery secretion appear. Soon the membrane becomes deep-red and velvety, there is a creamy discharge, and the lids are apt to stick together.

Prophylaxis consists in recognition and

timely cure of the vaginitis. Failing in this 1-30 carbolic acid or 1-2000 bichloride douches should be given every few hours before labor. In a suspected case a drop of nitrate-of-silver solution (gr. v— $\frac{3}{4}$ i) should be put within the lids at birth. This is done at every birth in the Maternity Hospital on Blackwell's Island. Among 150 cases I have seen there no ill effects followed this treatment and there was no ophthalmia.

Treatment is on the same lines as in the gonorrheal form; the following points are however to be noted:

Both eyes are apt to be affected. But if one is sound it should be covered not by a watch-glass but by borated cotton and a bandage which should from time to time be removed for examination of the eye.

Hold the child's head in the lap while cleansing, irrigating, and applying the silver nitrate. Usually the nitrate of silver need be applied only once a day and gr. x— $\frac{3}{4}$ i is as strong a solution as will be found necessary.

For ulceration of the cornea we must use atropine (gr. ii— $\frac{3}{4}$ i), but look out for belladonna-poisoning, to which infants are especially susceptible. Don't use leeches, and don't do canthotomy; in infants there is little danger of strangulation.

Plastic conjunctivitis is either croupous or diphtheritic in character. The former appears in occasional cases of purulent conjunctivitis and consists of a layer of fibrin which forms usually on the eyelids alone and which can be wiped away without difficulty. In the latter the membrane is dense and gray and cannot be wiped away; there is infiltration of the conjunctiva either orbital or palpebral, in spots or involving large areas; microscopical examination will demonstrate the characteristic bacilli; the cornea is greatly endangered and general symptoms are marked; this form may follow an acute illness, or a primary nasal diphtheria may extend upward through the lachrymal duct, or the conjunctiva may have been touched with the contagium. In both forms the prophylaxis already described and the use of ice, cleanliness, and nitrate of silver are indicated—but the silver should not be used until the plastic material has disappeared. Other local remedies are

1-2000 solution of bichloride penciled upon the everted lids, or Labarraque's solution 1-7 pts. In the diphtheritic form papayotin one in 5 to 10 parts of water and glycerin in equal proportion may be applied hourly to the membrane; in this form we would now use antitoxin in the same way as in diphtheria of the respiratory tract.

The tension is apt to be great, so that cantholysis may have to be done; here there is great danger that the membrane may extend over the cut surfaces.

General treatment is necessary, as in diphtheria elsewhere.

Granular conjunctivitis is also called trachoma or Egyptian or military ophthalmia.

It is a contagious chronic disease. The granulations occur mostly on the membrane of the lids; they are small reddish-gray bodies, of the size of sago-seeds; they are evident on inspection. There is itching, as if sand were felt in the eye.

Causes are bad hygiene, uncleanness, overcrowding, poor ventilation, a low state of health, and the use of articles containing the contagium. Damp and low-lying climates are supposed to be conducive to it.

Much deformity of the lids, entropion, and ectropion are apt to result. The most frequent sequel is pannus, which is a covering over the cornea caused by the friction of the granules. The cure of granular disease requires much patience in both physician and patient, since years may be consumed in completing it. The parts should be touched twice a week or even daily if the disease is severe with the sulphate-of-copper stick. Or better than this the surgeon should brush the affected part with a solution (gr. xx— $\frac{3}{4}$ i) of silver nitrate twice a week or oftener if necessary, using a 4-per-cent. solution of cocaine before making the application. To avoid permanent staining of the cornea, the silver should be applied only to the parts affected, and after the granules have taken on a grayish-white hue the eyelids should be bathed in iced water or boracic-acid solution.

Hygiene, cleanliness, and ventilation should be instituted. The general health should be improved.

When these measures are found inef-

fectual the treatment must be more heroic. After cocaine-anesthesia the granulations may be scarified and their contents squeezed out, or they may be touched for several seconds with a fine steel needle connected with the negative pole of a galvanic battery, or with the point of a red-hot cautery. Or there are forceps provided for squeezing the granulations. Two pairs, one in each hand, are used. The lid is everted. One forceps holds one end of the lid and the other pulls against the first until the granulations are squeezed and stripped out.

The bleeding may be severe and should be controlled with cotton and a solution (1-5000) of bichloride. A 10-per-cent. solution of cocaine should be applied on a pledget of cotton before proceeding with any one of the above methods, which should not be practised oftener than once a week. In rare cases excision of redundant folds is permissible.

Other applications are tannic acid dusted upon the lids twice a day, or a 1-1000 solution of bichloride applied daily, or 1 in 5000 bichloride-irrigation, or the use of the nitrate-of-silver stick already described in place of the silver solution.

Be careful not to make applications which may cause excessive reaction. Change the remedies from time to time.

When acute inflammation occurs we must stop the use of caustics and for the time being use anodynes, e. g., atropine, cold water, or leeches, etc. The patient should then go to bed.

In phlyctenular eruption there will be found either on the corneal or ocular conjunctiva one, sometimes more, grayish- or yellowish-white vesicles, pinhead in size and filled usually with serum, which burst, leaving small ulcers. The eruption is seen mostly in children and is due to bad hygiene, poor nourishment, or to irritation accompanying conjunctivitis. The phlyctenæ are most troublesome in the morning. There is pain, especially severe when the eruption is on or near the cornea, and there are photophobia and flow of tears. The duration is about ten days. Treatment: Build up the health. Use atropine as an anodyne (gr. ii

— $\frac{3}{4}$ i). When the acute stage has passed away dust into the eye well-triturated calomel, or apply yellow oxide of mercury ointment (gr. ii—3 ii). These remedies stimulate the processes of repair. Atropine (gr. ss—3 ii) may be added to the ointment if necessary. Such applications should be made twice a week. The ointment should be introduced within the upper lid—a morsel about the size of a pinhead—upon a brush, and the eyeball should then be gently massaged by rubbing the finger over the lid for about five minutes.

In conclusion—cleanliness, cold, boracic acid, nitrate of silver, cocaine, and atropine are the remedies to be relied on in most cases of conjunctivitis.

When inspecting the conjunctiva for disease, examine its whole area for a possible foreign body or an implication of cornea or iris.

Instruct the nurse in the method of washing out the eyes.

Use cocaine before undertaking any painful procedure.

Look out for atropine in the old and the very young.

If the cornea is abraded don't, unless very positively indicated, use nitrate of silver or alum lotion.

Don't poultice the eye.

Gonorrhea—Its Treatment

According to the *Pacific Med. Jour.* gonorrhea is essentially a local disease of the mucous membranes depending upon specific pathogenic infection. When this germ is attacked early by appropriate remedies the disease can be aborted. When allowed to "run its course" as a "self-limited disease," we must not be surprised to find septic or alkaloidal systemic poisoning, or any of the many serious pelvic sequelæ. In many cases of chronic gonorrhea that have been treated for months and apparently cured, it was found that Skene's glands, Bartholini's glands, the cervical and utricular glands contained the gonococcus snugly hidden away, ready on the slightest provocation to infect or reinfect, any mucous membrane.

Remembering the pathological process induced by the gonococcus, it is clear that the first object should be to destroy the pathogenic germ by any appropriate germicide.

S.

ADDRESS

THE ESSENTIAL OF THE ART OF MEDICINE¹

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The closing years of the eighteenth century and the early years of the nineteenth century marked an epoch in medicine as transcendent for its welfare as the events of the past decades bespeak for the glory of the medicine of the future. In that epoch was witnessed the passing of the old; the dawn of the new. A long farewell was being said to schools of medicine and systems of pathology and false methods; a timorous but cordial welcome was extended to the beginnings of that which culminated in the realism of the nineteenth century. It is true, as echoes of the past, Brunonianism, Broussaisism, the Stimolo and Contrastimolo of Rasori, and subordinate "isms" furnished exercise for the expiring idealistic intellect, and seemed to condone for the pernicious therapeutics of the early periods of this century.

Although the reform period extended over the seventeenth and eighteenth centuries, the death-agony of idealism began about the period we have indicated. It is true that Harvey and Willis and Glisson, and Malpighi, and Schwammerdam, in the seventeenth century, supplemented the labors of the early anatomists and bid fair to found a science of medicine. In this earlier century, most important of all, arose the Baconian system of philosophy. Nevertheless the sway of the imagination and the rule of theory never seemed to be more powerful. Deductive philosophy seemed to be at its height. Instruments of precision had not been employed up to this time, and the collateral sciences were not sufficiently developed to invoke aid from them in the investigations of physiology and pathology. It is not to be wondered at that the indefinite data secured by observation restricted to the unaided eye and to the touch, should lead them to indulge in elaborate classifications of disease and to refinements in symptomatology which now serve only to amuse and appal. Under these circumstances the iatro-chemical and iatro-mechanical, the mechanico-dynamic schools, the schools of animism, vitalism, and solidism, waxed and waned, and out of them the Brunonian, Rasorian, Hahnemannian, and other fallacious schools were born.

Along with pseudoscientific systems, artificial classification reached its highest pitch in that of Sauvage. His system included ten classes of disease, each subdivided into several orders, and some as many as 295 genera and 2400 species of disease (Park). For Cullen, four classes, with 149 genera, were enough to encompass the field of pathology.

Time forbids entering into detail concerning the theoretical and speculative modes of treatment which grew out of such specious pathology. Again there was a rise and fall. To Willis again (seventeenth century) credit must first be given for approaching the rational and scientific in therapeutics (Leech), as in physiology and anatomy. Sydenham displayed the most astute scientific habit of mind in urging simple observation and simple treatment, in fully recognizing the healing power of nature and in removing the immediate cause of the disease. Observation and experience were the central idea of his method, a revival of Hippocratic methods, which to this day influence medical thought. It is interesting to know, on the authority of Leech, that, with the exception of emetics, purgatives, bitters, and carminatives, very few of the drugs he and Willis employed had the powers they claimed for them, and most of them have lapsed into a deserved oblivion. Both these great men were moderate polypharmacists, as many as eighteen herbs only being used in one prescription. Their rivals and successors, however, far surpassed them in the number and character of the ingredients of the formulas they employed. With the growth and decay of systems in the eighteenth century—the death-agony lapsing into the nineteenth—flourished and declined remedial measures debilitating or stimulating, alternative or evacuant, according to the specific view in vogue. Venesection followed shortly and lingered long; stimulation raged, polypharmacy grew apace, and then, when results did not warrant practice, change in the type of the disease was invoked (Allison and others) to fit fact to theory.

Theoretical systems came to an end with the promulgation of the systems of Brown, Broussais, and Hahnemann. A universal skepticism arose; the expectant treatment in France and in Germany "Nihilismus" were the refuge of scientific inquirers (Bennett). Therapeutics, with the development of chemistry and the growth of physiology and pathology, became rational. But, further reference will be made to rational therapeutics later.

In the meantime it must not be forgotten that Stahl and his followers were among

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the earliest skeptics—denying the efficiency of medicine, even doubting the value of opium and cinchona. Let it be recorded here, likewise, as an admonition to those who oppose and a hope for those who favor, that as early as 280 B. C.—perhaps by others earlier—Erasistratus urged gymnastics, exercise, diet, and baths, in preference to drugs, and that the echoes of his refrain never died out. Asclepiades discarded all violent remedies, and relied on hygienic means alone. Moreover, from time immemorial, climatic treatment was extolled. Coming to later days, among the not a few essays on climatic treatment, Rush's description of the advantages secured by long journeys on horseback for the treatment of consumption is as fascinating as the many writings of this almost myriad-minded man.

It is quite impossible to leave the deductive philosophers, the theorists, the speculators in the medicine of the eighteenth century, without an inquiry into the methods employed by them to secure data upon which the diagnosis of disease was based and therapeutics determined. "What a patient said, and what the physician saw and felt, was all a case of disease had to tell him," Mitchell eloquently states. Such was the limitation of the inquiry. Instruments of precision were not used, chemical analyses not made, while biologic studies were not dreamed of. It is true Paulus Ægineta had employed sounds and specula; Santorini counted the pulse and used the thermometer and balance; Boerhaave used the thermometer in the axilla, and the lens; Floyer and Haller marked seconds with the watch. Their use was forgotten or neglected. This is not to be wondered at when we recall the obtuse state of mental activity that followed Avenbrugger, who invented percussion, and described it so pithily and exhaustively, in 1760, to wait until 1808 for Corvisart's recognition of its value.

Examination of a patient included careful scrutiny of the exterior—the face and features, the eye, the protruded tongue, the state of the extremities in comparison with the trunk, the color of the skin; observation of the temperature and degree of moisture or dryness of the skin and the varying pulse revealed to the touch; a note of the decubitus, the movements of muscles and of the naked-eye characteristics of the urine, the vomitus and the feces. Changes in the character of the voice, and delirium, stupor, and other gross evidences of impaired cerebral action were described. The eye saw more than it sees to-day, mayhap, but it looked through the glass darkly; the touch

was more sensitive, but not as sensible. Generally it was as "observation gone minutely mad" (Mitchell). Fifteen minutes would have been ample time to make a complete objective examination of the patient, unless the refinements of symptomatology, conjured by the imagination, furnished opportunity for the lapse of longer time. The accuracy of the diagnosis depended more upon the extent of the experience of the physician, and his knowledge of medicine acquired by reading, than upon precision in the method of obtaining facts upon which to base a diagnosis. Such diagnosis was often an intuition, as harmful then as now, and hence attained without it being possible to state the process of reasoning by which the end was secured. Think of it, that the number of the pulse and the respiration are rarely referred to in the writings of Rush and Cullen, and that Corvisart, "On the Heart," says nothing of the frequency of the pulse, and Lænnec makes no mention of the breathing-rate. In truth, actual diagnoses were not made, but instead, a symptom, such as jaundice, dropsy, or fever, was described. It is not to be wondered at, as previously indicated, to appease the patient and establish his own authority, theories of disease were uppermost in the physician's mind, and deductions from such theories utilized to establish diagnoses and formulate lines of treatment. Cullen stated that theory could not be separated from practice; hence it was unimportant which came first, and that, therefore, theories could control observations.

If guessing the truth from ill-defined data is an intuition, and so-called "rule of thumb" methods an inspiration, it can then be said that the medicine of this period reached the acme of perfection of such methods of diagnosis; from this time its displacement by inductive methods began.

But medicine as a science was no higher or lower than cognate departments of knowledge. Law, it is true, was a science then as in the days of Justinian. Theology was not removed from the deductive methods of reasoning, although there was reaction and quickening. Metaphysics, because dealing with the unknowable, was deductive, but Physics and Astronomy were casting off their swaddling-clothes. The former had just run the gauntlet of deductive philosophy, after the brilliant deduction of Black, whereby the theory of latent heat was established, one of the very few deductions which afterwards was proved directly and inductively to be true. Chemistry was a new-born in the sciences under the brilliant accouchement of Lavoisier; geology had grown through the labors of Buffon

and Rouelle, but was only welcomed to the circle of sciences by the genius of Cuvier. Botany, groaning with the classification of Linnæus, was emerging into light by virtue of the brilliant generalizations of Goethe in vegetal physiology (the awakening of evolution) and of Desfontaines and Jussieu in structural physiology. Berzelius and Lisle were organizing mineralogy. Cuvier was associating anatomy with geology and laying the foundations of paleontology. The brilliant dictum of this great man that the "first question in science is always a question of method" resulted in sweeping away the artificial classifications in natural history as of Linnæus in botany, and in removing natural sciences from the hands of the observer into those of the experimenter. Buckle's remark, "the consequence of which has been the attainment of that precision and accuracy of detail which experiment alone can give and which is every way superior to such popular facts as observation supplies," none the less applies to natural history, then and now, than to a minor department of it—the science of medicine. Cuvier, he further remarks, taught naturalists the true path of inquiry by accustoming them to a close and severe method, and by teaching them to despise vague descriptions. How well we should take this to heart in our present-day labors—close and severe method.

The latter half of the eighteenth century also shows the industrial arts flourishing to a high degree, but carried on alone by "rule of thumb" methods and by experience. Brewing, cheese-making, milling, butter-making, tanning, metallurgy, and other arts were conducted without scientific method, and the art transmitted from father to son, from master to apprentice, after years of trial, and oft, from repeated failures, of tribulation. In spinning and weaving, in iron-making and other manufactures, great machines—instruments of precision in industrial arts—were bringing about changes which were destined to modify the social fabric of the world.

In fine it may be said, science ceased to be deductive, and was fast growing to be inductive and experimental. Medicine, too, was becoming inductive and realistic; its art scientific and rational.

For more than nine-and-ninety months the gestation of modern medicine was in progress during this century. Morgagni was laying the foundation of morbid anatomy (1761), the "great" Haller had brought light out of darkness in establishing experimental science and laying the foundation of modern physiology; but to Hunter in the eighteenth, and Pinel and Bichat in the

late eighteenth and early nineteenth centuries, we owe our foundations of medicine. Hunter could not put aside the deductive methods of reasoning entirely, but, as Buckle points out, in pathology he employed both inductive and deductive methods alike, attaining the truth more nearly with the former method. Certain it is that to Hunter we owe the development of method in pathological inquiry—observation and experiment being the handmaidens with which he gathered the innumerable data which made him "the equal of Aristotle, Harvey, and Bichat, and the superior of Haller and Cuvier." To Pinel we owe the substitution of analytic for synthetic methods and the origin of systematic diagnosis by the careful construction of symptoms; while to Bichat, the "Napoleon of Medicine," to whom are due the foundations of modern morphology, we as clinicians owe "the establishment of that large and sweeping innovation which opens up a new view of thought and creates fresh resources." He of all others overthrew speculative tendencies in medicine.

The progress during the present century, familiar to all, has been marked by the employment of inductive methods of reasoning in the departments of physiology, pathology, and clinical medicine. By the results of such methods and the development of a scientific habit of thought, the science of medicine—which is that of physiology in its broadest sense—the physiology of health as well as the physiology of disease, including the effects of drugs, can well fill its minor place in the science of biology. The old cry of the uncertainty of medicine, the unscientific character of the art of medicine, cannot be held up to us. No Montaigne can at this day hurl the shafts of ridicule and satire that stung to the quick and stimulated honest doubt in the sixteenth century. Well do we know, ourselves, our limitations, as well as our power, and with becoming modesty do we uphold the claims of medicine as a science. If science is "knowledge gained by systematic observation, experiment, and reasoning, knowledge, coördinated, arranged, and systematized"—well fortified is he with cynicism who has the hardihood to maintain the contrary.

To sketch the struggles by which this firm height has been attained would be to reiterate that which is familiar to you and to detain you far beyond the measure of your deserts. Its history would be the story of the labors of Baillie, Lænnec, Cruveilhier, Rokitsansky, and others in forming the foundations of morbid anatomy, and of Virchow, Cohnheim, Koch, Lister, Pas-

teur, and hosts of others on both continents, creating the science of morbid physiology. Its history would be an account of the application of scientific habits of thought to experiment, observation, and analysis. It would show the dependence of it upon the major sciences—if they may be so termed—chemistry, physics, and biology, whereby instruments of precision and methods of chemical, physical, and biological research became essential in the practice of the art of medicine, in diagnosis, and in therapeutics. It would show that we have attained precise knowledge of the origin, course, mode of recognition, and control of many diseases; that we can predict the occurrence of their daily phenomena, as the astronomer predicts the appearance and course of a comet. From our knowledge of etiology we can create disease at will, but more triumphant of all achievements, the glory of the century, we can deliberately and positively and hence scientifically, prevent disease. We have learned that diseases are events exhibiting disturbances of the processes of physiology; that involution, degeneration, decay, and death are normal events, as are evolution, growth, and birth. The great postulates of Koch, the brilliant steps in inductive biology of Pasteur and of Lister, leading to preventive measures, the scope of which is almost inconceivable, are akin to the conceptions of Newton and Dalton in physics. Such advances were only attained by the master spirit of the naturalist. We are wont to forget that the use of instruments of precision, guided by the method and scientific habit of thought of the physician as naturalist, brought us to this great height. Our debt to the naturalist must never be forgotten. The lesson we can the better learn from a closer analysis of the relation between modern diagnosis and modern therapeutics in modern medical thought. It would be unjust, however, not to give credit to that scientific, honest doubt and scientific receptivity of truth that is characteristic of the Anglo-Saxon intellect, upon the basis of which the philosophic structures of this era have been raised.

It must be remembered that the closing years of the nineteenth century are marked by the prevalence in all fields of mental activity of that habit of thought which has grown out of inductive philosophy. In whatsoever domain we make investigation we find that which may be called a scientific habit of thought prevails. In theology it has extended to such a degree as to alarm, without just grounds for such alarm, those who have the hardihood to cling to old habits attendant upon the deductive science.

Here it now appears almost iconoclastic. It need not, on the one hand, be the occasion for fear; nor, on the other, for the creation of antagonism. For experience has shown that the exposition of truth in this manner only the more firmly builds the temple which it is thought might be destroyed; while from many standpoints we know the utter futility of attempting to prevent the progress of knowledge thus attained.

In history inductive philosophy has revolutionized methods, and wrought out a philosophy which harmonizes human action with organic law. In sociology, although as yet tentative, it is aiding in the solution of problems which will contribute to human happiness. Chemistry has verily grown to an exact science, and the exposition of the "periodic law" looks to greater exactitude in the science of pharmacology. The conservation and correlation of forces in physics and the conception of evolution in biology are the triumphs of inductive philosophy and the glory of this great era.

DIAGNOSIS.—The department of clinical medicine is an art as well as a science and includes diagnosis and therapeutics. I have elsewhere stated the limitations of the inquiry in diagnosis one hundred years ago. Then one-fourth, one-sixteenth, of the time now employed sufficed to gather all data. It is not necessary to rehearse to you the expansion of the inquiry at this day. To establish any diagnosis perhaps days may be required. After securing subjective data, there is required the skill of the chemist to analyze secretions; of the physiologist to examine the blood and apply the physical instruments of precision so necessary to elucidate the facts derived from the visual apparatus, the nervous system, the circulation, and the respiration; of the biologist, to study the life-properties of the parasite that may be the ruthless invader of tissues.

By these means, however, and by the use of auscultation and percussion; by the use of modern methods of direct vision with specula and lenses and mirrors, or of indirect vision, with photograph and Röntgen rays; or more precisely still, by bringing the inaccessible to view by exploratory operation or exploratory puncture, precision in diagnosis has reached a degree over which exultation can only be calmed by awe at the possibilities of further expansion. It is seen that anesthetics and asepsis brought to us a timely aid in diagnosis—exploratory operation.

It is thus seen that whereas in 1800 only a few diseases could positively be recognized, now as many as fifteen in internal medicine alone can positively and beyond peradventure be diagnosticated, while ten more with

limitations that the scientific mind can appreciate can be affirmed to exist.² What more forcible statement can be made to show the position of the science of diagnosis? Still more enforced, however, is it when we remember that in addition the list can be swollen tenfold, if we would include the groups of the diseases of special organs, as eye, ear, etc., and those of internal organs which can be recognized by a scientific consideration of an orderly procession of facts. These are those: first, of etiology brought out in the social history; second, of the history and course of previous diseases; and third, of the evolution of the disease under consideration, united to, fourth, the data derived by an objective examination of the patient when, in addition, diagnosis by exclusion is judiciously employed—a close and severe method in gathering data. Under the above circumstances, scurvy, myxedema, exophthalmic goiter, hemophilia, the inflammations or degenerations of most organs, and many other affections, would not be overlooked.

What a difference in comparison with the diagnoses of bygone days. In a given case of suspected malaria, five minutes' examination of the blood settles the diagnosis and wipes out the necessity of all considerations of the manifold subjective symptoms of the disease, and the objective symptoms which often were questionable facts from imaginary postulates. A conception of diagnosis or the breadth of research necessary to establish such diagnosis shows that time is gained to the patient, lost to the physician. It is not any wonder, therefore, that a general practitioner must have a corps of trained assistants or laboratories at his command. While the patient has gained from the precision and rapidity in diagnosis, the gain of a community is tenfold greater. The instant recognition of an epidemic forewarns and forearms. Instead of waiting for the development of a large group of cases and a series of autopsies, the biologic diagnosis of one case removes any doubt.

It is thus seen that an essential in the art of diagnosis is skill in the use of instruments of precision and the application of a scientific habit of thought. It is further

seen that with the incoming of scientific precision there is the outgoing of art. Diagnosis by intuition, by careless "rule of thumb" methods, by an appeal to an experience which is incoördinated, unsystematized, and unarranged, is as little trustworthy as the shifting sands of the Sahara.

Diagnosis has thus become in many directions scientific, precise, and positive. It has minimized the value of experience and eliminated deductive reasoning as a factor in the art of medicine, which has thus grown more practical because more scientific, and less theoretic because more practical. In diagnosis the art of attaining the end has been replaced by the scientific method of securing this end—the large element of uncertainty based upon imperfectly gathered data, replaced by the small element of possible error of method in securing positive data.

THERAPEUTICS.—Venesection, polypharmacy, treatment based on deductive generalizations, swayed medical practice a hundred years ago. The beginning transition to rational therapeutics has been outlined, and it is important to note that such change was the result of the projection of scientific habits of thought into the field of the therapist, and the appreciation by him of the facts and principles of biology. The first rude awakening took place when the therapist was asked to define what he was treating, to place on a scientific basis the knowledge of the nature of the disease against which he was exercising his power. He had to state with definiteness and precision, as far attainable as possible, the nature of the processes, contending over the treatment of which the theorists gave birth to a jargon of medical literature as vast in its extent as in its indefiniteness, by which the mental vision of the artisan was obscured. It was rational for him, in order to answer this question properly, to study the natural history of disease; to learn from the study of a large number of cases the origin, the progress, and the decline of diseases, and their effects upon the economy when death resulted. The promulgation of studies of this character was made more readily possible by the establishment of hospitals and dispensaries in the seventeenth and eighteenth centuries, by means of which the aggregations could be classified and compared. The practitioner, in the onrush of duty, could not retain from month to month the recollection of a type of disease for such comparison. The multiplicity of the cases, and the enlarged extent of the experience, the presentation in the ward perhaps of a dozen cases of a given type at one time, coupled with the habit of record-

²The diagnosis of the following conditions can be made by scientific methods, with the aid of instruments of precision: 1. Malaria; 2. Leprosy; 3. Relapsing fever; 4. Amebic dysentery; 5. Tuberculosis; 6. Diphtheria; 7. Asiatic cholera; 8. Tetanus; 9. Actinomycosis; 10. Glanders; 11. Carcinoma; 12. Sarcoma; 13. Leukemia; 14. Various parasitic affections, as those due to filaria.

The diagnosis of the following conditions can be made by scientific methods, with certain limitations: 1. Typhoid fever (*may be certain*); 2. Various forms of pyogenic infection, if hematogenous; 3. Various forms of meningitis, through lumbar puncture; 4. Chlorosis; 5. Pernicious anemia; 6. Gonorrhea; 7. Effusions, by exploratory incision; 8. Growths, by exploratory operation; 9. Ocular diseases; 10. Laryngeal diseases; 11. Aural diseases; 12. Infections associated with excretions or discharges.

ing the history of cases, made the conduct of such studies possible. Out of this inquiry arose the Paris Pathological School and the Vienna School of Medicine. Although none the more forceful, the labors of the former seemed to dominate the medical thought of the first half of the century. The numerical method of Louis contributed vastly to our knowledge of the course of disease and the effects of remedies. The methods that he supported to such an extreme as to lead to their own injury resulted in the production of essays in the natural history of the specific ailment, indicating that disease had an evolution and involution which, if undisturbed, tended to a natural cure. Thus, the self-limitation of many ailments was worked out. The essays of Bennett and Wilks and Gull and of Bigelow and Flint awakened a judicious skepticism. The application of the analytic methods of various forms of treatment brought about the same result. Expectancy became the rule of the hour. That disease was an expression of morbid physiology, the natural tendency of which was to self-restoration, became evident to all.

The accumulation of knowledge, and its array in mathematic language, led to the interjection of other sciences—that of mathematic philosophy, as involved in the theory of probabilities and of the science of statistics. Cold, formal mathematics gave little ground for theory to stand upon.³

The analytic study of a large number of prescriptions by Martindale, and later by Patch, carried out for another purpose, disclosed the fact that, after all, a great deal of our boasted therapeutics as to the number of drugs employed was brag and bluster.

A study of Martindale's analyses shows that the total number of times the drugs that were called for more than 30 times were used was 31,664 in 12,000 prescriptions; but 8588 of these were employed externally or as excipients. Thirteen drugs were prescribed 10,054 times; nearly one-half of the entire lot limited to this small number, if externals, etc., are excluded.

Of course, the great array of agents employed, the fact that many perished, with the setting of the sun that had arisen on the day of their birth, was called attention to by many observers, and led to further doubt. Then skepticism came about in another way. The more incurable the disease the greater the number of drugs vaunted for its relief. Hence, upward of 90 were advised at one time for epilepsy; hosts for exophthalmic goiter and for other affections, uncontrollable in days gone by. In

scanning the literature of the "drug-house" one can too often set down as worthless the drug that "cures" many diseases, or one can fix in his mind as incurable the disease that has a multitude of remedies recommended for its cure. The pretentious and formidable array of drugs that the manufacturers thrust at us daily is alike as uncomplimentary to our knowledge and common sense as it is an evidence of the infantile state of their therapeutics. I counted 554 Galenical drugs alone in a price-list, not having the time to calculate inorganic and other preparations. Such drug-firms cater surely to that period of the evolution of a doctor wittily epitomized by Radcliffe: "When young he had 20 remedies for every disease; when old, 20 diseases for which he had no remedy." And thus it has come about that the individual judgment of the effects of treatment of individual cases, unless hedged in by limitations, is of very little value unless supported by laboratory experiments.

Calm, deliberative study on the lines established by the schools referred to, whereby the physiology and the pathology of the disease were acquired, as well as knowledge of its course in new environments, led to the production of many essays on the limitations and the powers of drugs. Moreover, such studies led us to know the nature of the disease, the action of the drug in health, and its action in disease. It seems most absurd that such processes of ratiocination did not occur long before the advent of physiologic therapeutics.

Then it occurred to many, as they went along in practice, how small the number of drugs they actually employed. Repeated papers have been published to show how few drugs were actually employed, and how small the number upon which reliance could be placed. Moreover, drug-accounts and the requisition-blanks of hospitals and army and navy dispensaries showed what few drugs were actual necessities. A critical analysis of a modern work on therapeutics reveals the fact that the certainties are few. The number of drugs that are scientifically curative can be counted with the fingers of the two hands.

The criteria upon which to base the statements of the value of drugs are those of experiment and observation. The number that from experiment and reason we know produce a definite effect is limited, types of which are seen in opium, belladonna, and alkalies.

Another group of observers, basing their criticism upon very patent scientific grounds, led us to understand that we could not judge of the action of a drug if it was

³ See Billings on Medical Statistics; Morton Prince and others.

administered in conjunction with other remedies. Hence, assaults on polypharmacy began. The most reasonable injunction, that simplicity in therapeutics is essential, prevails largely at the present time; but that the assaults must continue, the following prescription, devised on the twenty-eighth day of May, in the year of our Lord 1898, by a writer of some prominence in therapeutics, witnesses—the drugs only are enumerated: sodium salicylate, potassium acetate, ammonium acetate, fluid extract of euphorbia, peppermint-water, compound tincture of benzoin, compound tincture of capsicum, tincture of nux vomica, syrup of tolu. Here is another for an infant, 9 months old, with nostrums from three other bottles, and the wonder was the child died. It contained quinine sulphate, protonuclein, pepsin, hydrochloric acid, arsenic chloride, and one or two excipients.

The therapist may smile blandly as he will, and continue to dogmatize. But when I am told that fluid extract of bugleweed controls pulmonary hemorrhage, I ask what is pulmonary hemorrhage, its physiology and pathology, and, with such knowledge, how far is its artificial control possible; secondly, whether pulmonary hemorrhage does not stop of its own accord; thirdly, whether rest, diet, etc., and, above all, removal of the cause, is not quite sufficient; and, finally, whether "mental expectancy," or "confidence," does not bring about the imperturbability that secondarily brings rest? When these questions are answered, then it is time to decide upon the virtue of the remedy proposed. Unless we have a measure of such knowledge, and experimental knowledge of the powers of the drug, a scientific conscience will not allow us to use drugs in this manner.

It has then come to this, that the value of a system of therapeutics, or of a single remedy, can only be determined when (1) the natural history of the disease is known; (2) the influence of other factors promotive of the natural course of the disease, as rest, diet, etc., are eliminated; (3) when the so-called personal equation of the observer is set at naught; (4) when that peculiar influence of mind on body, the hypnotic effect of extraneous conditions, the results of mental expectancy, are eliminated. That the second, third, and fourth liabilities to error can scarcely be controlled is almost self-evident. Hence, for the foundation of rational or scientific therapeutics, experiment must form a basis for conclusions. Such experiment, to be of value, must imply a knowledge of the disease or the essential in the disease to be combated. Until the discovery of toxins, we had no knowledge

of the entity we are called upon to counteract in diphtheria. The therapeutics of this affection, prior to the discovery of the antitoxin, was promulgated from an appalling array of data subject to extraordinary liability to error because of the possibilities already indicated, and because of the limitation of our knowledge. The vast labor attendant upon the collection of data from which to draw conclusions can hardly be appreciated, but the labor is not wasted. It is true, the indications for management secured are subordinated to the one principle; they are none the less valuable. Through them we learned that certain lines of diet, fresh air and sunshine, limitation of the catarrhal process, and other indications were contributive to restoration to health. Our negative information was most valuable; above all, we learned what not to do. The amount of energy expended in such therapeutic warfare, commendatory for its profusion, is startling, and, were it not that an atom of good always results, one would wish its course could be turned into the lines of more precisely scientific inquiry.

But do not think, if we are limited in the number of drugs that *cure*, we are restricted in means to cure. The achievement of the century is that we recognize disease, not as an affection of one organ, but as a process in which all are perturbed or involved; that, in consequence, we strive to correct that perversion of the physiology of the entire economy. Hence, principles of treatment are invoked and, therefore, remedies and means are employed to stimulate, repress, or replace secretions and excretions, to similarly influence excess or deficiency of physiologic action, or to allay pain and quiet perturbed nerves. With this end in view judicious venesection, the external and internal use of water, and of heat and cold, forms of exercise, dietetic methods, climatic methods, methods to aid physiologic efforts, and, above all, rest, local and general, are scientifically directed to attain modern results.

At too wearisome a length have I trespassed upon your time and patience. A review of the rise of therapeutics to the dignity of science shows throughout, whether in combating the old or in bringing forth the new, the naturalist, the scientist in spirit if not in fact, is the controlling force. The physician as naturalist dissipated speculative therapy; by his habit of thought and mode of action he curbed excesses, destroyed fallacies, and erected new structures. As in diagnosis, so in therapeutics, all advancement, all gain has been made at the hands of the scientist.

Scientific doubt first prevailed; scientific

action followed. So the art of therapeutics is being replaced by the science; as the art of diagnosis has been replaced by the science. To establish a diagnosis, therefore, and to conduct a judicious and productive therapeutics, two things are required, the scientific habit of mind, and a scientific method of inquiry—the essential in the art of medicine. The steps required in the elaboration of a diagnosis have been detailed. It has been seen that patient, elaborate, precise inquiry is necessary, involving the expenditure of considerable time in diagnosis and the use of instruments of precision to attain accuracy. The same spirit must prevail in the application of remedies. The carping critic may well say some diseases are cured by remedies the action of which cannot be scientifically examined. True, some therapeutics is accidental, as the discovery of the utility of sodium salicylate in the treatment of rheumatism, but that does not lessen the necessity for all to be scientific.

The enthusiastic therapist may say your reasons will lead to nihilism. Nay, nay; it is not necessary to be nihilistic, and indeed I am far from it. I thoroughly believe in the action of drugs. I am sure that an effect is produced, however small, by the introduction of various substances into the system. It is not that protest is raised against the non-action of drugs, but more truly doubt of the necessity for securing an action is put forth, as its possibilities for good or evil cannot be estimated. It is not a question whether the drugs act or do not act; it is a question of the necessity to secure such action. Save in the control of certain symptoms, for which, as pain, we have a capable armamentarium, it is not necessary to invoke remedies except those directed to the removal or counteraction of a definite cause. If the cause is not established scientifically the remedy cannot be applied scientifically. But the over-zealous will urge, if no drugs are administered, we lose the one great power of therapeutics—the effect of mental impression and the good results of mental expectancy. Quite true, but does the necessity of this “lie” exist any more in medicine than, as Zola points out, in religion?

Cannot a method more practical, less harmful, or even with less possibilities of harm, be employed? The desired end is to secure faith and confidence. What can be more productive of both of these than the careful, patient, systematic, and analytic examination of a patient? What more surely establishes confidence than the feeling of the patient that the physician knows his ailment; that he knows

how long to let it go unaided, and when to interfere with its course? Confidence thus begot eliminates the necessity of administering many, or often any, drugs, and when with the patient inquiry there is conjoined that imperturbability of spirit of the physician that he can only attain from self-confidence, secured by knowledge precisely acquired, what an amount of solace and comfort is given! Witness for yourself the therapeutic effect of one half-hour's examination of a patient. Hence it is that I plead for a scientific habit of mind in medicine. Is it not proved again that essential to the art of medicine is the science?

That higher ethical principles and a nobler conception of duty, a firmer grasp of truth, a more inspiring stimulus to action, a sure effacement of self and selfishness can accrue from the cultivation of science, need not be maintained. Huxley and hosts of others have eloquently pleaded on these lines, far beyond the feeble powers that are given me to uphold them. Time was when we vied for supremacy with the judge, the minister, and the school-teacher only. Now the banker, the engineer, the man of science, the scientific manufacturer, and organizer in every sphere rivals us in standing in the community. We cannot hide ourselves behind that self-satisfaction which attributes to ourselves qualities and virtues a little above those of the ordinary man. We must do character-building on a platform similar to that applied to ordinary men.

Gild it as you will, the fact remains, that in the practice of our art we are engaged in establishing a business—a fact, if not acknowledged, is always tacitly assumed—it can be said, as a matter of business, that the scientific habit of thought must be cultivated. It is “business” to secure the confidence of your patient, for it is a step toward getting him well. If secured by the honest method of an honest study of his ailment it is divorced entirely from quackery. The “lie,” not existing, is not paid for. It is “business” to establish truth between ourselves and our patients. It has been shown that there is no necessity for the therapeutic lie, that it is unscientific, as well as inconsistent. The constant use of voiceless yet speaking instruments of precision that deal only in truth begets truth. Truth only can be cultivated. Truth to ourselves, to our patients, truth to our fellows, truth to our profession, will silently, even unknown to ourselves, grow if scientific habits of thought are cultivated. Brains are necessary, but character is essential. People are far more willing to pay for character than for brains; they are far more willing to pay for honesty than for specious dogma.

The ultimate aim of the art of medicine is to cure the patient. Its practice is assumed as a business, not as a calling, as was beautifully expressed in days of old. It may occur to the fledgling in medicine that he is "called upon" to engage in the professional labor, but it will soon come to him, sometimes rudely, that he is engaged in a business. It is true he has nothing to trade with; he has skill for the service of humanity. But for such service he expects remuneration. He should have ideals of duty, but they are not different from those that any business-man should hold. We may talk, we should talk, we must talk, about ethics, but so should every man of business. The sooner, therefore, we remove ourselves from the pedestal some have placed us on, and put ourselves among men, to be controlled by the ethics of all men, the better for us. Just so soon will we come into the possibility of controlling those of our brothers who do assume this practical attitude.

The close of the nineteenth century witnesses the application to a high degree of the facts of science to the daily avocations of life. In whatsoever department of human activity we make investigation we find the application of scientific methods employed in the course of the industry. Reference has been made to the rise and progress of scientific industry in the dawn of the nineteenth century. The close is fast approaching a consummation. In the great iron and metal industries, from mining to the conversion of the metal into its final mold, the man of science presides over its destinies. Every mine has its geologist; every furnace and every foundry its chemist; in tanning, in refining, in the making of sugar, of paints, of varnish, of oils, in dyeing, in the manufacture of cotton and woolen goods, scientific experts are employed constantly. There is no trusting to luck. Large hat-factories have chemists to pronounce upon the felt used; in the manufacture of food-products, the knowledge of the biologist is commanded; brewing, cheese-making, and the manufacture of all dairy-products can be scientifically controlled. Hansen grows and furnishes yeasts of various kinds for the many varieties of beers. Kahn has changed butter-making from an art to a science. It is needless to further multiply illustrations. Look around you; in every mill and every factory is seen this change from an art to a science—art, so-called, is declining, science is extending. The nineteenth-century cormorant, wealth, and its coadjutant, competition, have thus pushed science to the fore. The large amounts of money invested in business-operations make it necessary to preclude all elements of

chance. Just as some connoisseurs aver, and others deny, that the beer of the day is not quite like the beer of the good old days of hand-brewing, so we are forced to admit that the science of medicine is not yet what may be expected of it. Science has much to learn from art. The change is in progress; it is irresistible; it will accrue to the benefit of mankind.

We have seen how, on parallel lines, art, i. e., chance-methods, are being replaced by science, and by the same analogies the value of the science of medicine above the art of medicine can be appreciated. Where we have but little knowledge the more is art essential, the less precision is noticeable in our work; hence the greater the opportunities for the display of quackery; the less of the knowable, the more of charlatanism.

The history of all science and the history of medicine point to the absolute necessity for its development and growth, and its practical application to the welfare of man, that he who prosecutes it must possess a scientific habit of analysis and comparison, to put aside that which is false, recognize that which is true, or withhold judgment as did Newton, who, when asked why he walked, replied, with courage of power, "he did not know." With the conviction that essential to the art of medicine are those qualities of heart and head that belong to him who possesses a scientific habit of mind and cultivates science in the true spirit, come new responsibilities, new hopes, new fears, new rewards, new inspirations.

Our first responsibility will be to our successors. Those of us who are teachers must change our methods. Formerly, the apprentice acquired from the master an art that required the limited training of only one or two senses. After acquiring the secrets of the art as his master divulged it, lectures were attended, to hear the problems (theoretic) discussed. Now, senses must be trained—a mind developed that possesses only a scientific habit; years are required. The early labors of the college must be supplemented by labor in the medical school. Two years should be devoted to the study of anatomy, including histology and embryology; to physiology, including as much biology as possible; to medical chemistry and to pathology. We owe it to our profession and to our students. We have added a year to our medical curriculum and robbed the college course of its valued year. We must replace it by honest training. The laboratory and the hospital-ward are to be the student's theater of action. Didactic lectures are to be the exception rather than the rule. In this manner, and in this manner only, can the student be fitted for his

life-duties. Our further duty is toward the noble charities placed under our guidance. The cry against hospital and dispensary abuse is unjust. Need we not look to ourselves. Do we conduct our labors in such institutions in accordance with modern scientific methods, whereby we contribute to knowledge and human health? Pardon a passing thought—all such institutions should be under the guidance of a State Board, similar to the State Board in Pennsylvania controlling asylums for the insane. Undoubtedly abuse creeps in on the side of the management and the public, as well as the physician. Then, if dispensaries were conducted on scientific methods there would be room for every man who deserved a position in a dispensary—certainly in the multitude of dispensaries we have in Philadelphia. Time will not permit further extension of the thought. The fact is, our methods must be reformed in our dispensary as well as in our hospital work. Is it unjust, alike to science, to the hospital, and to the public, to see as many as 25 patients per hour?

Our fear is in the possibility that we may become practical in the sense that the politician has grown practical. In this stage of our evolution such fears can be awakened. The ophthalmologist is our most scientific man; we know the dangers that surround him, but we see him emerge, unscathed, from the ordeal. Moreover, the environment of the physician is such as to preclude the possibility of the development of any but the higher and nobler traits of character.

Our hope is that with such necessity for scientific labor will come the greater development of truth and character. Cant and hypocrisy, quackery and deceit, cannot thrive in such an atmosphere, and as the years of toil are added one to the other, character grows broad, firm, clear. Constant association with instruments of precision that cannot lie incites truth. With the attainment of scientific habits, what more glorious rewards can come than that which accrues from the noble purpose, the lofty aim, the chivalrous spirit of the man of science.

The truths of medical science and their practical application are cosmopolitan. Law is limited by political barriers; religion by race and by mental development. The promulgation of truths in medicine, or the establishment of a method of its art, affects for good the entire universe, not only man, but all animal creation. The labors of Mitchell in Philadelphia touch the welfare of the entire population of India. The results of Lister's researches are as valuable

in China as in England. The words of Koch are as powerful in Japan as in Berlin. What greater reward is it than to be an humble fellow worker in a field so broad, and what higher inspiration than the stimulus attending such labors?

Let us then be not impatient. The adamant position secured by the labors of Lister and Koch and Pasteur; the advanced state of preventive medicine at this day; the scientific methods for the treatment of disease, as seen in that of diphtheria; the vistas that are opening with the advent of organo-therapy, show the dawn of a new science of medicine. Unfortunate only are we that to witness the dawn only is our privilege. What the high noon-tide of medicine will show we hear only the whisperings.

Influence of Disturbances of the Nervous System upon Diabetes Insipidus

M. Jaccoud (*Méd. mod.*, 9th Ann., No. 3) presented the following case at the Hospital La Pitié. It is an excellent example of the influences of nervous disturbances.

The patient, a man 46 years of age, had in early childhood been subject to convulsions and incontinence of urine. At about 20 years of age he was attacked with epileptiform seizures. Those occurred at irregular intervals for several years and then ceased.

He married and one day was suddenly seized with the fancy that his wife was about to throw him out of a window. Subsequent to this delusion he suffered from polyuria, which lasted six months. Two years later he narrowly escaped a fall from a considerable height. The fright occasioned by this brought on a second attack of polyuria, which continued for some months before disappearing. Again, this time without definite exciting cause, he had another attack of diabetes insipidus. As time passed serious symptoms supervened on different occasions, the nervous symptoms being the most notable etiologic factor of the trouble. The influence of these nervous disorders upon the genesis of diabetes insipidus cannot be overestimated.

In such cases M. Jaccoud advises that the basis of treatment should be potassium bromide. He prescribes the drug in doses of 6 gme. ($1\frac{1}{2}$ dr.) during the twenty-four hours.

In the second place, or in event of failure of the bromides, he advises extract of opium in progressive doses of from 3 to 6 ctg. ($\frac{1}{4}$ to 1 grn.) daily. U.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Etiology of Adenoids

Dr. M. C. O'Toole, *Jour. of Amer. Med. Assoc.* (March 5, 1898, p. 542), advances a new theory for the possible causation of adenoids. Taking his starting-point from "Suggestions Regarding Treatment of Diseases of the Ears and Throat in Children," a paper read before the Medical Society of State of California in 1894, that all cases of adenoid had been found by the author to have their origin in women suffering from leucorrhea at the time of the birth of the children afterwards subjects of this affection, he made a point of observing all cases coming under his notice in this particular with the result of confirming the observation and he concludes that ear-affections in children, as well as adenoids, may both have their cause in the presence of the gonococcus in leucorrheal secretions.

H.

A Case of Purpura with Peculiar Features

A report of a case of purpura with peculiar features, presented before the Dermatological Society of London by Dr. J. Mitchell Bruce and Dr. James Galloway, is given in the *British Journal of Dermatology*, January, 1898. The patient, a man aged 29, was by occupation a cook. For eight weeks previous to his admission to Charing Cross Hospital he had suffered from the eruption of red spots on his lower extremities associated with edema. On presenting himself it was found that he had, along with considerable edema of the lower extremities, a profuse eruption of the type described as "purpura rheumatica" on the thighs, legs, and feet. On account of this condition and his appearance, which suggested anemia, he was admitted as an inpatient. On fuller examination it was found that at the commencement of his illness rest tended to diminish the eruption, but latterly it remained constant. Once during his illness he had an attack of vomiting, and subsequently blood appeared in his stools. The heart was slightly hypertrophied, and slight accentuation of the aortic second sound was noted; but at no period did blood appear in his urine, nor were casts present. A blood-examination

showed normal numbers of red and white blood-cells. No abnormal condition of any of the other organs was noted.

After rest in bed for some time the purpuric eruption vanished, and when it had almost gone the patient was allowed to get up. As soon as this happened the eruption recurred with more than the former intensity. It was now noted that any irritation, such as might be produced by drawing the blunt end of a pencil across the skin of the leg, caused a white line, which was succeeded by the occurrence of a pinkish reaction. In from two to three hours the line of skin so rubbed was marked by an intensely purpuric stripe, composed of a large number of purpuric spots. W.

Malarial and Cinchonic Amaurosis

Juan Santos Fernandez has investigated this subject and reports thirty-seven cases observed in Havana, Cuba (*Jour. Eye, Ear and Throat Diseases*, Vol. III, No. 2, 1898). The differential diagnosis between cinchonic and malarial amblyopia can only be made by an examination of the fundus of the eye. Here will always be found either retinal alterations like those observed in patients suffering from malaria or simply ischemic troubles, as in cases of quinine-intoxication. Of the cases reported there were twenty-seven men and ten women. The two eyes were affected simultaneously in thirty-three, the right eye alone in three cases, and the left eye alone in one case. Optic neuritis was observed in five cases. In ten other cases there were ischemia of the disk and contraction of the retinal vessels. As to the doses of quinine administered to each patient, it was not possible to determine in all of the cases. Some patients could only say that they had taken large quantities.

Differential diagnosis between these affections is much easier made when the patient is seen in the beginning of the ocular complication. It is very rare that amaurosis due to malaria shows a tendency to remain and become permanent, while quinine-amblyopia, even when it is not permanent, persists for a more or less long time. It is to quinine that the author attributes ischemia of the disk, the presence of which is often referred to in the cases reported. This ischemia constitutes the true pathognomonic sign of cinchonal intoxication. The essential characteristic is discoloration of the disk, which is generally only a more or less pronounced pallor, but which can increase consecutively and result in a whitening as decided as atrophy, when it is not always easy under such conditions to make the differential diagnosis. In these

doubtful instances, however, it is necessary to depend not only on the examination of the disk; we should very minutely explore the retina and inquire particularly into the patient's antecedents. For example, if nerve-atrophy is accompanied by marked contraction of the retinal vessels, and the ocular trouble has immediately followed the malarial manifestation, which calls for necessary energetic quinine-medication, we can affirm the patient is suffering from quinine-amaurosis. The ophthalmoscopic signs are very different in optic neuritis, retinal hemorrhages, and spots of choroidal atrophy. It seems as a result of the author's observations that infancy is more especially predisposed to neuro-retinal ischemia. In fact, the writer's statistics show twelve children, aged from 1 to 10, which is equivalent to a third of the total number. The author believes that the relative frequency of these manifestations in children is due to quinine being administered to them with the same prodigality as to adults, without regard to the rule of dosage which obtains with children as compared with adults.

There is no need of administering very large doses in order that the visual trouble become manifest in patients who are predisposed and exceptionally susceptible to the symptoms of the alkaloid in question; it is none the less certain that too large doses are more dangerous, and, consequently, it is prudent not to employ them.

As to treatment of cinchonal ischemia and the amblyopia, which is usually the result of it, we cannot depend upon pharmacology, as no appreciable results were obtained from iodide of potash, strychnia, arsenic, or from douches. The best results are to be expected from physiological rest and general ocular hygiene. G.

Acute Dilation of the Heart, Occurring in the Course of Cancrum Oris

Thomas Oliver (*Edinburgh Med. Jour.*, Vol. XLV, No. 513, p. 251) reports a case of the above. The patient was apparently a healthy girl. As her illness progressed the area of cardiac dullness was observed to become rapidly larger, and a mitral murmur developed, the physical signs of which gradually became modified as health was regained. The principal point of interest in the case is the rapidity with which the heart dilated, it having been healthy and the area of percussion normal when the patient came under observation. In the course of the illness the apex of the heart could be seen getting carried out further and further daily, and all at once a mitral systolic murmur developed, the pulse becoming rapid and

irregular. The heart dilated, owing to malnutrition of the myocardium, either from fever or the poisoned blood, the murmur that developed being adynamic rather than endocarditic. There was no albuminuria; nothing of the nature of heightened arterial tension at any time to explain matters. As there was never any great pyrexia, it is to the action of toxins in the blood that the malnutrition and subsequent dilatation of the heart must be attributed. The murmur could still be heard several months after recovery. The disease was located principally on the left side of the face. L.

The Structure of the Spinal Ganglia of Mammals

Flemming (*Arch. fur Psych.*, Vol. XXIX, p. 969) contributes an extensive article on the structure of the spinal ganglia of mammals. In the main he confirms the observations of Lenhossek, but states that by means of his method of staining with progressive hematoxylin the achromatic substances are fibrillary rather than granular, a point of difference between the two authorities. These fibrillated structures are more or less longitudinally arranged at the pole from which the main dendrite is derived, and in the body of the cell more reticulated. It is characteristic of this reticulum, he believes, that it is more marked in the cells of the anterior horns of the cord than in any other ganglion-cells in other locations. J.

A New Test for Lactic Acid in the Gastric Contents and a Method of Estimating Approximately the Quantity Present

J. P. Arnold (*Univ. Med. Mag.*, Vol. X, No. 7, p. 416), ventures to present the following test for the detection of lactic acid, especially in the diagnosis of gastric carcinoma, it being simple and easily applied, the reaction characteristic, and the results reliable. The test solutions used are as follows:

- No. 1 Saturated Solution Gentian-violet (Alcoholic)..... 0.1 c.c.;
Distilled Water..... 250 c.c.
Sig.—This solution should be freely made once a month.
- No. 2 Solution Ferric Chloride (U. S. P., 1890)..... 5 c.c.;
Distilled Water..... 20 c.c.

In applying the test solution, put into a small porcelain capsule or test-tube one cubic centimeter of solution No. 1, and add one drop of solution No. 2 from a pipette. The violet of solution No. 1 changes to a bluish violet upon the addition of the ferric chloride. To this mixture add, drop by

drop, the filtered gastric contents. If lactic acid or lactates be present, the color of the solution changes to a green or yellowish green. In weak solutions or in the use of small quantities of the solution to be tested, the reaction is seen very distinctly at the line of contact of the drop and test solution, though the color may not be entirely changed to green when the mixture is shaken. Alcohol, glucose, butyric acid, acetic acid, and phosphates, in quantities below 2 per cent., do not interfere with the reaction as they do in Uffelman's test. The reaction is not disturbed by the presence of acetone, albumoses, albuminoids, or peptones. Sulphuric, nitric, and hydrochloric acids do not give the reaction. As regards the delicacy of the reaction, one drop of a .02-per-cent. solution of lactic acid gives a very distinct reaction. The usual limit set down for Uffelman's test is the detection of .05 per cent. When a large quantity of phosphates is present, there is at first a reddish violet produced, which, in the course of a second or two, gives way to the characteristic green. If phosphates be present to the extent of .5 per cent., it may take two or three drops of a .02-per-cent. solution of lactic acid to bring out the reaction distinctly. The reaction which takes place in this test is the combination of the lactic acid with the ferric chloride, forming a lactate, the gentian-violet acting as an indicator. The color of the solution is not entirely changed to green until all the iron is changed to the lactate. This fact makes it possible to use the test as a means of estimating the quantity of lactic acid present accurately enough for clinical purposes. L.

Sudden Death Caused by an Enlarged Thymus

Dr. Clessin (*Munch med. Wochen.*, No. 11, p. 330, 1898) reports a case in which the causative relation between the enlarged thymus and the death of the patient is absolutely certain. A child, 2 months old, perfectly healthy, had taken the breast at ten o'clock in the evening and was found dead in his bed the next morning. An autopsy was ordered. On removing the sternum, the thymus was found to cover about two-thirds of the heart; it was brown-red and covered with numerous petechiæ. Adhesions between the thymus and the pericardium were separated, and then the gland was removed carefully together with the trachea. It was then seen that the trachea was so compressed by the thymus—at about four-fifths of an inch (2 ctm.) above its bifurcation—that the anterior and posterior walls were almost in contact.

Otherwise the trachea was not changed, microscopically. The thymus weighed thirty-one gme. (one ounce), was 7.5 ctm. (three inches) long, 5.5 ctm. (two and one-fifth inches) broad, and two ctm. (4-5 inch) thick. The author thinks that the thymus became acutely, suddenly swollen, and by compressing the trachea, literally choked the child. But though the possibility of sudden death by enlarged thymus is proved by this case, the author believes with Palttauff that in the majority of such cases an enlarged thymus is only one of the expressions of a general lymphoid condition, in which heart-failure is frequently liable to happen. R.

Cystinuria

Dr. W. G. Smith (*The Practitioner*, Vol. LX, No. 5, 1898) concludes as follows:

1. Cystin is a product of proteid metabolism, probably the result of a synthetic process.

2. It has no relation to uric acid, gout, or rheumatism.

3. It is in no way connected with taurin, which is a sulphonic acid $C_2H_4(NH_2)SO_3H$.

4. Its probable forerunner in the body is cystein, which is a strong base soluble in water.

5. Traces of cystein, or of a body closely related to it, occur normally in urine.

6. The sulphur of the cystein is, as a rule, oxidized into SO_4 (ordinary and ethereal).

7. Under certain unknown conditions cystein escapes full oxidation, and is partly excreted as cystin.

8. Cystinuria has been found to be associated with diaminuria by several observers.

9. Cystinuria may be intermittent or occasional.

10. Cystinuria and diaminuria are possibly due to a common cause, viz., peculiar intestinal micro-organisms.

11. Therapeutically, the indication is to disinfect the intestine. S.

Ehrlich's Diazo-reaction in Children

In order to determine the value of the above test in typhoid fever, Dr. A. Kissel, *Arch. f. Kinderheilk.* (Vol. XXIV, Nos. 5 and 6, p. 383, 1898), examined the urine of 269 children. Of these 70 were entirely free from fever, 76 were suffering from typhoid abdominalis, 46 from fibrinous pneumonia, 16 from tuberculosis, 6 from measles, and 12 were in status febrilis of as yet undetermined origin.

The reaction was obtained in but 80 cases, of these 60 (78 per cent.) were typhoid patients; of the 46 pneumonic patients the reaction was obtained only seven times (15 per cent.); of the 16 cases of tuberculosis the reaction was obtained 6 times (37 per cent.); of the 6 cases of measles the reaction was obtained 4 times (66 per cent.); of the remaining 55 cases the reaction was but partially obtained three times.

After relating the various methods employed and results obtained the writer concludes as follows:

1. The redness of the urine and the gray precipitate formed therein are characteristic of Ehrlich's diazo-reaction.
2. There are but few cases of typhoid abdominalis which do not present this test.
3. It is seldom met in fibrinous pneumonia and tuberculosis, moreover it is not as constant in these diseases as it is in typhoid fever.
4. Ehrlich's diazo-reaction is, as a rule, more intense the severer the case of typhoid.
5. The abatement of the intensity of the test is an indication of the rapid termination of the typhoid fever.
6. With the occurrence of a relapse the reaction, if disappeared, returns again.
7. The diagnosis of typhoid abdominalis in infants is greatly facilitated by Ehrlich's diazo-reaction.

S.

On the Movements of the Stomach

By means of a balloon-sound passed into the stomach, V. Ducceschi studied the movements of the stomach (*Arch. per le Scie. Mediche.*, Vol. 21, No. 5). He found that each part of the stomach had its own type of movements, which were distinct, particularly so in the pyloric end, and also, in part, the cardiac end. He further studied the effects of various exciting agents in this particular. Lactic acid proved to be a distinct excitant as well as hydrochloric; distension acts very markedly. He concludes that the special nervous mechanism is under the control of the intravisceral apparatus.

Cure of a Case of Werlhof's Disease by Use of Raw Bone-Marrow

In the *Bul. gén. de Thérap.* (Feb. 15, 1898, p. 237) is a report of the following case treated by raw bone-marrow. [For a case successfully treated with calcium-chloride water see A. M.-S. BULLETIN, April 10, 1898.] The patient was a girl of 8 years, pale and thin, but with no heredity of disease. Becoming feverish with a temperature of 38° to 39° C. (100.4° to 102.2° F.), anemic, and having joint-pains, especially

in the knees, the joints soon swelled and were covered with purple spots in two days. Later, they covered the inner sides of the legs and the dorsal surface of the elbow and wrist. On the fifth day she had fetid, bloody diarrhea, the abdomen was distended and caused exquisite suffering.

At first calomel and quinine were given, followed by antipyrine. Ice was applied to the abdomen, astringent injections were given, and ergot and salicylate of soda were administered. The child got worse, the spots larger, epistaxis set in, and albumin appeared in the urine.

On the twelfth day veal bone-marrow was tried, the fresh marrow being triturated with boiled water, cooled, filtered, and given in small quantities in milk, two spoonfuls being given each day. In three days the stools were normal and appetite returned. The eruption disappeared gradually, and the bone-marrow was continued for nineteen days.

H.

A Study of the Difficulties of Defecation in Infants

At the forty-eighth annual meeting of the American Medical Association (reported in *The Medical Brief*, Vol. XXVI, No. 5) Dr. T. C. Martin read a paper upon the above subject.

It is generally recognized as a fact that infants and young children strain at stool. The infant and young child strain violently at expulsion of semi-solid feces because of the imperfect development of the anatomic features concerned in mechanism of defecation. These are:

I. The infant's lower gut is muscularly deficient.

II. Its mobility within the abdomen is obstructive to defecation.

III. The rectal valves are obstructive.

IV. The infant's anus not being sufficiently expansible, is, also, obstructive to defecation. Records of post-mortem observations were read and specimens of recta exhibited which proved that:

I. The muscular development of the adult rectum and lower sigmoid is plainly apparent, and a deficient muscularity is observable in the infant specimens. In the infant gut the intrinsic power of peristalsis is not present in that degree necessary to it as a component expulsive factor.

II. The meso-peritoneum of these parts in the adult is, relatively, considerably shorter than that in the infant. The adult gut is slightly tortuous; that of the infant is much angulated. Mobility and angulation of the infant gut conspire to obstruct the passage of formed feces.

III. The rectal valve appears to bear the

same proportion to the gut in both adult and infant, but when the difference in muscular development in the two is noticed, the disproportionate great resistance of the valve in the infant rectum becomes an obvious fact.

IV. The anal expansibility is adequate in the adult, but because of the greatly contracted bony pelvic outlet it is deficient in the infant, and constitutes an obstinate obstruction to the passage of semi-solid feces.

Co-relative to these facts, it must be recognized that the adult rectum has resident within its own wall a powerful expulsive, muscular mechanism; that in the adult the shortening of the mesentery holds the upper rectum steady under the applied auxiliary forces; that in the adult the flexures of the sigmoid are not necessarily obstructive, though in a desirable measure, retardative; that in the adult the incline of the lower sacrum and coccyx behind, and the development of the uterus and prostate and their inherent supports in front, provide the lower adult rectum with a firm funnel-like arrangement which guides the feces directly upon the os internum of the anus; that the rectal valves may divide the feces into portions to facilitate their separate successive discharge, and finally, in sequence, that the physiologic descent of the entire pelvic floor reduces this last possible resistance to the minimum in adult defecation.

Infantile straining, the ruptures and prolapses, constipation, retention of feces, and the multitudinous consequent ills demand study, and this investigation forces the conclusion that the individual's escape is ultimately assured by the process of development, but that, for the normally formed infant, the physician will find the solution of the problem of difficult defecation in the liquefaction of the feces. R.

The Effect of Neoplasms of the Brain upon the Mental Functions

Dr. Gianelli (*Centralbl. f. inn. Med.*, Vol. XIX, No. 20, p. 538) concludes:

1. Hallucination indicates an irritation of the corresponding cortical center; the location of the neoplasm in the immediate neighborhood of this center can, however, not be determined with positiveness.

2. The greater the manifestations of psychical disturbances, such as torpor, dull intelligence, weakness of memory, the more justified is the assumption that the frontal lobe or prefrontal zone is the seat of the new growth.

3. These disturbances appear later also

in cases where the seat of the tumor is in other localities. They are, therefore, of no diagnostic significance for neoplasms arising from the prefrontal zone. Loss of memory and inability to revive word-images and those of hearing and sight bring forth a state of dementia which is suggestive of an affection of the left temporal lobe and left parieto-occipital zone.

4. These psychical disturbances indicate the presence of a more or less intensive change taking place within the morphological elements of the cortex.

5. Tumors of the corpus callosum are always (?) accompanied by aberration of the mind.

6. Changes in the sensory sphere which develop during the course of a brain-tumor give no diagnostic clue as to its seat.

7. A cerebral growth manifesting itself by progressive paralysis is most probably situated in the frontal lobe.

8. This region may be surmised to be the seat of the tumor where delusions of grandeur form a prominent symptom.

9. Wittiness also points to neoplasm of the frontal lobe, especially that of the right hemisphere.

10. The frontal lobe is the probable seat of the tumor where changes in character, irritability, tendency to become violent, incontinence, menacing, etc., are present.

11. Disturbances in the proper performance of motor actions of higher order indicate that the seat of the neoplasm is the hemispheres near the psycho-motor zones, especially near the frontal lobe. S.

The Cranium of the Insane

Cecil F. Beadles (*Edin. Med. Jour.*, Vol. XLV, No. 513, p. 263) notes the fact that not only is there a greater want of symmetry in the outline of the cranium in the insane, but that the cranial bones vary much in their thickness, the alteration taking place being most frequently an hypertrophy of the bones. The proportion of cases in which thickening has been said to exist among the insane varies considerably in the experience of different observers. In 234 post-mortems performed by the author (144 males, 90 females), the calvaria were distinctly thickened in fifty-one cases (22 males, 29 females), the female skull being therefore more often affected. The frontal bone is most often the site of greatest thickening, the occipital being next. When it is distinctly limited in extent, the former is generally the portion of the cranium affected, a diffuse form of dense bony deposit being spread over the inner table for a considerable area. Such a

condition is less common than a more general thickening of the diploe between the two tables of compact bone, but is much more frequent than the distinct formation of osseous tumors. There is, however, no clear line of demarcation between a localized exostosis and a more diffuse bony mass, such as that referred to, for in the same skull both may exist, and are seen to merge in character one into the other. In thirty instances in which the author has made careful tracings of the external table of the calvaria from adult female lunatics, apart from irregularity in outline, there is a great want of uniformity in actual size, the whole skull-cap being found considerably larger in senile insanity, dementia, and the chronic insane conditions, than in the acute states, or even in melancholia of long duration. The greatest length of any of these thirty crania was $7\frac{1}{4}$ inches, the greatest breadth $5\frac{1}{8}$ inches, these, however, not being in the same skull. The cranium is rarely increased in size by elongation in an antero-posterior direction, the increase usually taking place by a bulging outwards in the parietal region, frequently associated with a broadening in the frontal, so that the cranial outline acquires a more rounded form. Coming to the inquiry as to the form of insanity which most frequently produces this thickening in the cranial vault, experience has found it very uniform, the cases being usually those of chronic mania or such as have passed into dementia. Frequently these patients have been the subjects of marked periodical excitement. In fact, those forms of alternating insanity in which it may be supposed the brain and its coverings are subjected to temporary attacks of congestion, give some of the most pronounced instances of this condition. General paralysis, though of short duration, ranks high. The thickened calvaria of epilepsy are of this type. Senility by itself rather tends to diminish the thickness as well as the density of the bones. Not one of the series of fifty-one cases showed any extraordinary degree of hyperostosis, the greatest thickening occurring with far greater frequency among females, due to the much longer time they were resident in the asylum, for it is a well-known fact that the average duration of insanity and age at death of female lunatics is much greater than that of men, doubtless dependent in part on the high proportion of general paralysis among the latter. Drink has been the assigned cause for insanity where the calvaria, in females, were found excessively thick and heavy with little diploe. In the series tabulated, in every instance the dura was thickened, al-

most invariably adherent to the bone, the pia arachnoid opaque, and the brain itself usually wasted as a whole, or locally; all, in fact, showing the signs of what are usually looked upon as the result of a former chronic inflammatory condition. Where noticeable thinning takes place, it is in the melancholic state. The proportion of cases in which cardio-vascular changes are found in the body after death in most chronic insanities, as well as in general paralysis, is very great. It is generally considered that most of the changes in the bones of the cranium are brought about by excess of blood-supply, to which the bones have been subjected during periods of mental excitement extending over a long period. Other influences are probably heredity, and the toxic action of syphilis and alcohol, doubtless acting through the vascular system and blood-supply. There exists also an obscure relationship between such a condition and erysipelas. L.

Treatment of Toxic Amblyopias (Retrobular Neuritis) by Injections of Serum

Dr. L. de Wecker (*Bul. et Mem. de la Soc. Franc. d' Ophthalm.*, 1897, p. 72-83) insists on the similarity at the outset between toxic amblyopias and true infectious forms of retrobulbar neuritis. The latter is a more or less direct infection of the optic-nerve trunk. We regard toxic amblyopias and the resultant trophic troubles of the optic nerve as due to a toxic element carried by the blood and lymph from the stomach, lungs, and skin. We attribute their deleterious action to their excessive accumulation and retention, owing to defective elimination by skin and kidneys. In the true retrobulbar neuritis the infectious element is absorbed in the neighborhood of the nerve, in the cranial cavities from rhinitis, middle-ear affections, etc. It is certain that the functional troubles and the anatomical modifications are identical in both at the outset.

Toxic amblyopia remains more or less stationary and limited to the macular fibers of the nerve, whilst true retrobulbar neuritis soon extends, by infectious inflammation, beyond the region of the circumscribed macular fibers into neighboring leashes, and frequently becomes so general as to end in loss of conductivity of the nerve.

No one refuses to admit the presence of various toxins introduced into the blood-current, from alcohol, nicotine, carbonic oxide or sulphide, lead, quinine, and retained combustibles in diabetes, albuminuria, uremia, etc.

Our tentative therapeutics have utilized

two methods of treatment: elimination by increasing the emunctories and antagonization by introducing appropriate antitoxins for each case. The first method acts very slowly, and is often unsuitable in weakened conditions; the second is often impracticable from not possessing the specific antitoxin or not being able to use it in strong enough dose.

The use of large quantities of natural serum hypodermically with benefit in cases of pyemia and septicemia has suggested the employment of such lavage of the blood- and lymph-vessels in the less violent forms of intoxication we are here considering, whose prejudicial action is produced chiefly on the peripheral sensory nerves. The trial of this method has proved efficacious. For want of hospital facilities the author could not give the larger injections to patients having to return to their homes. He employed quantities varying from 60 to 200 gme. ($\frac{3}{4}$ ii to $\frac{3}{4}$ viii) per day; not to produce the simple stimulating serotherapy, but to obtain the antitoxic eliminative quality. Therefore, he employed the stronger serum of Chéron, i. e., 1 per cent. crystals of carbolic acid, 2 per cent. chloride of sodium; 8 per cent. sulphate of sodium, and 4 per cent. phosphate of sodium. Chéron employs 5 to 10 gme. of this solution every two or three days as an injection for stimulating effects; but the author uses freely the large doses above indicated, not fearing the quantity of phenic acid employed, as Chéron himself was unable to find traces of it in the urine when as much 2.2 gme. (grn. 33) of carbolic was used hypodermically.

Strict antiseptic methods of making the injections must be observed, and it is well not to exceed 100 gme. ($\frac{3}{4}$ iii) per day, to bring about, not so much a *lavage* as a *disintoxication* of the blood. The injections must be made very slowly, taking ten to fifteen minutes to inject 60 to 100 gme. ($\frac{3}{4}$ ii to $\frac{3}{4}$ iii), so as to avoid pain, employing the solution heated to 33.8° or 38° C. (93° to 100.4° F). Warm cloths are applied during the cold period over the region raised by the injections.

The expense in time and apparatus of employing the serum-treatment, together with the marked improvement in vision after three or four injections, render it unsuitable to large clinics, where many cases could not be accommodated at one time. The improvement in vision may be as much as from 1-20 to 1-3 in those few days.

Patients thus bettered often fail to return to complete their treatment, and consequently remain incompletely cured, espe-

cially as alcoholics and habitués in use of tobacco are apt to return to their indulgence when thus improved.

In true retrobulbar neuritis no such improvement takes place, and the employment of injections, acting always so promptly in the relief of the toxic amblyopias, becomes a positive means of confirmatory diagnosis.

Boucheron has actually cured a case of dacryocystitis by use of Marmorek's anti-streptococcic serum. Suppurations commencing in cataract operations might be treated at once by these or the specific injections.

The repeated employment of injections of moderate size, as here advocated, avoids the hypertension due to exaggerated irritation of the vaso-motor center, but also keeps out of reach of hypotension. It would do after post-operative hemorrhages. It increases coagulability. It would be beneficial in intra-ocular and intra-orbital hemorrhages. This is an attempt to generalize the therapeutic measure for ophthalmology.

A. Darier, speaking relative to the above, acknowledged the character of the treatment as valuable, and suggested the use of pilocarpine, strychnine, and trinitrin as of prime value in such cases.

Parinaud threw out the idea that the injection of 100 gme. of serum as recommended by de Wecker would not have as valuable an effect for lavage of the blood as the taking of two liters of milk accompanied by a suitable purge.

Despagnet recalled the danger of overlooking possible danger in this treatment from hypertension in sclerosed arteries from alcoholism, causing retinal hemorrhages.

Coppez obtained extraordinary results in such cases by injecting much smaller daily doses, 5 gme. a day.

As the injection of these serums always causes stimulation proportionate to the quantity used, the employment of large doses at the outset of this treatment would be open to the objection of bringing about too great depression by way of reaction; the beneficial effects being in large measure due to slight sustained stimulation, small doses at the outset would seem better, often repeated. After a while no reaction follows.

H.

Neuritis

Dr. Theodore Diller (*Pa. Med. Jour.*, May, 1898) describes this disease, and then presents the histories of some fifteen cases. Neuritis is a nerve-inflammation; it is either simple, when but one nerve is involved, or multiple or "poly-," when the process is widespread, involving many nerve-trunks; it is interstitial when the

connective tissue of the nerve-trunk is attached, or parenchymatous when the nerve proper, including the axis-cylinder, is the seat of the disease. There are two fundamental causes of neuritis-traumatism and poison; the poison is either taken into the body, e. g., alcohol or lead, or it is generated by bacterial activity, e. g., malaria, typhoid, etc. The sciatic nerve and the brachial plexus, especially the musculo-spiral nerve, are those most involved. The cardinal symptoms of neuritis are pain, loss of power, and muscular atrophy; the facial muscles usually escape. The prognosis is good, but recovery is a matter of months, even years. Sometimes the phrenic and the pneumogastrics are involved; then death is almost certain.

As regards treatment, the cause must be removed. Rest, electricity, massage, baths, and, later in the disease, graduated muscular exercise, are indicated. The bromides, the iodide and salicylate of soda, strychnine, and the aromatic spirits of ammonia are appropriate drugs. G.

The Muscular Sense of the Eyes

In the estimation of space this muscular sense is of great value, and the results of the author, D. Bourdon (*Revue Philosophique*, Vol. XXII, No. 10) serve to elucidate many conflicting opinions.

Contrary to the usual hypothesis that our conceptions of space are due to muscular adaptations of the oculo-motorius, the author advocates the retinal origin of space-perception.

Lupus Erythematosus

The *British Jour. of Derm.* reports two cases of lupus erythematosus, shown by Dr. Radcliffe Crocker before the Dermatological Society of London. The first was cured and the other greatly improved by the administration of salicin in fifteen-grain doses three times a day. Both were women over thirty, and had suffered from the disease for over a year. In both the disease occupied nearly the whole of the cheeks up to the orbit and across the nose.

In one the treatment was commenced in July, 1897. Fifteen grm. of salicin were given three times a day and continued. Calamine-lotion was applied twice a day throughout the disease. When shown, all the disease had cleared off from every part except the upper lip, where there was a hempseed-sized papule.

The other case had exactly the same treatment since August. The disease had cleared off entirely on the sides of the

cheeks, and there was only a little left on the malar eminences, but on the nose there was still a patch two inches in extent in the state of seborrheic congestion. There was very little scarring where involution had occurred. The exhibitor did not claim that salicin cured every case, but a good many were either cured or improved by it. W.

Diffuse Syphiloma of the Penis

M. Glautenay (*La Tribune méd.*) reported the following case at the French Urological Association.

The patient, a man, 30 years of age, had had syphilis, which was treated only for fifteen days. Four years after the appearance of the chancre an induration of the urethra developed. The diffuse syphiloma of the urethra transformed the canal into a hard tube from the preputial frenum to the perineum. There were some ulcerated tubercular syphilides upon the glands. The effect of the lesions was frequent and painful micturition.

The patient was under the care of M. Fournier, and specific treatment rapidly caused an almost complete cure. The functional difficulty ceased, and the induration disappeared, except a small nodule near the frenum.

It is generally admitted that this lesion of the canal may be produced by two processes: Syphilides may begin in the vicinity of the glans and progressively invade the canal or may originate within the latter. The first variety is of comparatively trifling importance. The second, to which the case related by M. Glautenay belongs, is rare. It seemed to the speaker that his case might contribute to explain the difficult subject of tertiary syphilitic strictures. If the lesion in this case had been left to itself, it may well be believed that the softening of the gummatous tissue would, upon cicatrizing, have given rise to large and deep strictures. U.

Studies on the Neuroglia

F. W. Eurich (*Brain*, Vol. XX, p. 114) discusses the structure of the neuroglia-cells from the comparative standpoint, in the light of the newer investigations of Weigert. He shows some of the stages of the development of this tissue from the lower forms, and discusses the theories of the functions which have been advanced by various authors. He thinks that Bevan Lewis' "scavenger-cell" is but a neuroglia-cell in one of its life-history forms, and that in any proliferative process this earlier stage must be returned to before the final adult form of neuroglia-cell is reached. J.

SURGERY

GEORGE B. WOOD, M.D.

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Study of Appendicitis Obliterans

John Fairbairn Binnie (*Annals of Surgery*, May, 1898) concludes that there are at least four distinct varieties of appendicitis obliterans: an exudative variety, a variety characterized by mucosal hyperplasia, and sclerosis; a variety characterized by submucous hypertrophy; a reparative variety. In all varieties there may be and generally is localized peritonitis; endarteritis and periarteritis are almost constant phenomena in the disease. The vermiform appendix, in health, is distinctly muscular; in disease the muscles often hypertrophy. W.

Successful Cholecystenterostomy with the Large Intestine

Dr. W. L. Cousins (*Jour. of Med. and Science*, June, 1898, p. 289) reports the following: He was called in to see a lady suffering from intense abdominal pain and severe, constant vomiting. She had not had a movement for three days. The abdomen was distended and tympanitic, except in the right iliac fossa, where there was an area of marked dulness and very tender to the touch. The temperature was almost normal, but the pulse was very rapid and weak, varying from 120 to 130 per minute. She was treated with calomel and salines, and after a large evacuation of the bowels had been effected, the pain ceased and the abdomen was much less distended. Then, upon palpation, a distinct tumor was noticed and felt, in the right iliac fossa, extending from a point about three inches above Poupart's ligament to a point midway between the umbilicus and the anterior superior spinous process of the ilium; thence upward, nearly to the margin of the liver, between which there was a tympanitic area. The tumor also extended posteriorly to the lumbar region, as far as the anterior margin of the quadratus lumborum. As the patient did not show any marked improvement after two weeks' treatment, an operation was decided upon. An incision was made to the outer side of McBurney's point, and the abdominal cavity was opened. Everything was firmly bound down by adhesions as a result of a previous and still existing peritonitis, but there was no appendicitis. On extending his finger upward the doctor found the gall-bladder distended by fluid, so much so that its solid contents—the gall-stones—could not be felt. A second incision was made over the gall-

bladder, which fully exposed it. It was adherent to the hepatic flexure of the colon, and gangrenous at the point of contact. After bringing out the gall-bladder into the incision, fourteen stones were removed from it, the largest of which was the size of an acorn and the smallest the size of a beech-nut. The patient made an uninterrupted recovery, but a biliary fistula remained. Eight months after the fistula was still there, and as it caused the patient great inconvenience, saturating her clothing several times a day, the author advised an operation for the closing of the fistula. The author did a cholecystenterostomy by the means of the Murphy button with the large intestine, at the hepatic flexure of the colon (the parts being too adherent for the usual methods). The button came away on the fifteenth day. The patient made a good recovery, and is a well woman now. It is interesting to note the influence of this operation on the digestion. It was feared at the time of the operation that the bile flowing into the large intestine would produce a troublesome diarrhea, but this fear proved groundless. Before the operation the patient suffered from habitual constipation for years, but since the operation she has had regular defecations each day. But very few operations of the kind have been done with a successful result. R.

Left Subclavio-axillary Traumatic Aneurism — Ligation of Subclavian Artery in Its Second Stage—Recovery, with Perfect Use of Arm

H. G. Croly, Dublin (*Med. Press and Circ.*, London, Vol. CXVI, No. 7, p. 155), places on record the first Irish case of ligation of the subclavian artery in its second stage, the patient being a strongly built garden laborer, aged 37 years. In a dispute he was stabbed with a tailor's scissors below the left clavicle and again above that bone, the hemorrhage being profuse. On admission to the hospital there was noticeable merely an oozing from the wounds, a hematoma, conical in shape, and about the size of half a cocoanut, having formed. Compresses and bandages were applied to the wounds at the time. Gradual improvement followed upon profound collapse. A loud bruit with a distinct pulsation, absence of radial pulse, and powerless condition of the arm were noted. Ice-bags were applied to the tumor, followed later on by a shot-bag and Esmarch's bandage, and rest. The arm and hand remained powerless for four months, although the hematoma gradually diminished in size. Upon readmission into the hospital fourteen months later, because

of constant axillary pain, he having returned to work in the meantime, a large pulsating tumor was found occupying the subclavicular axillary space, the shoulder raised, the upper extremity wasted and a loud systolic murmur heard above and below the clavicle and in the axilla. After resorting to various measures of treatment the patient consented to operation. After making a vertical incision at the outer edge of the sternomastoid, and a horizontal incision along the clavicle, with careful manipulation a large aneurismal tumor was seen occupying the entire third stage of the artery. The extreme jugular vein was lying at the outside of the subclavian triangle, and the phrenic nerve in its normal position; the cords of the brachial plexus were not seen. An aneurismal needle was then passed through an opening in the sheath of the artery, around the vessel; the ligature being composed of ox-peritoneum, aseptic. The loop being divided, the ligature on the side next the heart was tied by the first hitch of a reef-knot, the artery grooving like a director, and the internal coats being merely approximated. The second ligature was applied in the same manner, the four ends being drawn finally as a single ligature, tying the second hitch of the reef-knot. The long ends were cut off close to the stay-knot, completing the stay-knot of Ballance. After the first half-hitch was tied pulsation in the tumor had gone and the aneurism ceased to pulsate. The patient recovered perfect health, his left arm becoming as strong and muscular as before the infliction of the wounds. The operation was originally practised by Dupuytren in 1819. L.

Contribution to the Study of Tuberculosis of the Testicle

Dr. R. Koenig (*Deutsche Zeits. f. Chir.*, Leipzig., 1898, XLVII, 502) contributes an article which treats chiefly of the etiology and treatment of tuberculosis of the testicle and is based both on the existing literature and also on personal observation of forty-five cases. He sums up the etiology in the following conclusions:

1. The prostate plays a very important rôle in the etiology of tuberculosis of the testicle. It serves as a breeding-ground for the tubercle bacilli, where, for a considerable length of time, they can multiply though remaining almost inactive and causing only very slight disturbances. But under proper conditions these bacilli may with or without participation of the urinary organs, proceed along the vas deferens and infect the testicle.

2. Tuberculosis of the genitalia may occur through metastatic infection from al-

most any portion of the body, e. g., lungs and bones. Perhaps here the prostate plays the part of an intermediary station.

3. In a few isolated cases the infection of the testicle may occur directly from the bladder without any recognizable changes in the prostate having taken place.

4. Primary tuberculosis of the testicle, i. e., without the existence of the disease in any other organ, is very rare. The infection even in these cases probably comes from an unrecognized area of disease in the prostate.

As etiological factors trauma plays the most important role. Both gonorrhea and frequent local congestion have been quoted as causative elements. The disease occurs most frequently between the ages of 20 and 30. Almost all authors are united in believing that the epididymis is affected before the testicle proper.

Dr. Koenig sums up the treatment with the following conclusions:

1. Operative treatment is indicated in all cases of tuberculosis of the testicle, in which the urinary organs are free from disease and when the general condition is such as to allow of operative interference.

2. Even if in certain cases resection of the epididymis gives good results, castration will always afford better chances of recovery, because neither by clinical examination nor by direct inspection is it possible to prove the non-existence of disease of the testicle proper.

3. Involvement of the prostate does not contraindicate castration.

4. Even when the tubercular process has extended to the urinary organs, castration may be looked upon as a palliative measure.

5. The removal of the tubercular testicle exercises a beneficial influence both on the tuberculosis of the prostate and urinary organs, and also on the general condition of the patient. T.

A Series of Fractures of the Elbow-joint Treated by the Jones Method

C. H. Frazier (*Univ. Med. Mag.*, Vol. X, No. 7, p. 400) in a clinical paper demonstrates the advantages of treating the limb in the position of acute flexion when a fracture of the elbow-joint has been sustained. The method is one first introduced in a sufficiently large enough number of cases by Robert Jones, of Liverpool, to make the results of value, about 250 cases of severe injury to the elbow being treated in 1892-94 with unquestionable success. The manner of dressing was suggested by the way in which Mr. H. O. Thomas treated cases of tubercular disease of the elbow-

joint. The advantages claimed at the time by Mr. Jones were that it allowed of free circulation in the limbs; that complete rest is obtained for the injured structures, and that this position will prevent the exudation of callus in such a way as to hamper the joint-movements. A review of the experimental work bearing on the subject by H. L. Smith, of Boston, carrying out a series of twenty-four experiments on the cadaver, for the purpose of determining at what degree of flexion of the forearm the fragments were held in the best position, justifies the following conclusions: 1. When either condyle of the humerus is broken into the joint, the fragments remain closely attached to the bone below, whose motion it follows. 2. The fragments can be most surely replaced by the following maneuver: forcible extension followed by pressure on the upper end of the ulna, downward and forward, while the forearm is being pronated and flexed to an acute angle with the upper arm. 3. In all these fractures the fragments are held most firmly in place if the elbow is tightly flexed; the next best position in this regard is the position of forced extension (not loose extension), while the greatest mobility is met with in 100 degrees of flexion. 4. The essential factors in the locking of fragments in the position of acute flexion seem to be the coronoid process in front and the ligamentous and muscular structures behind. Proceeding to the practical side of the question, Frazier observes that the position prevents the formation of callus on the anterior surface of the articular end of the humerus, where its presence would greatly hamper the power of flexion, which is more necessary to the ultimate usefulness of the limb than the power of extension. As for the remaining causes of ankylosis, such as infiltration into the capsule and ligaments, with perhaps organization and ossification of the exudate, and the formation of bands of adhesions, massage and passive motion must be employed as necessary adjuncts, and should be instituted early. The advantages to be claimed for the treatment of fractures about the elbow-joint along these lines may be summed up as follows: 1. When the fragments are properly reduced they can with difficulty be displaced. 2. The formation of callus in such a way as to hamper the movement of the joints is prevented. 3. The absolute fixation of the fragments is a safeguard against callus-formation. 4. If the reduction has been perfect, the danger of cubitus valgus or the gunstock deformity may be disregarded. 5. The ability to dispense with splints and bandages has a threefold advantage: (a)

It avoids the possibility of any interference with the circulation of the limb either by pressure or constriction. (b) It allows of a daily inspection of the injured part, without disturbing the limb in the slightest. (c) Massage can be applied at a very early stage without the necessity or danger of removing the dressing. 6. The early installation of massage will hasten the absorption of any inflammatory exudate before it becomes organized, and will prevent to a great extent muscular atrophy. 7. The early and judicious employment of passive motion will help to preserve complete functional activity, by stretching the peri-articular tissues that have become infiltrated with the exudate, and by preventing them from contracting as the exudate organizes. 8. To say the least, the position of acute flexion consults the comfort of the patient. 9. Should partial ankylosis result, as it sometimes will, despite the strictest attention to every detail, an arc of motion, ranging from complete flexion to incomplete extension, is a much more useful one than that from complete extension to partial flexion. 10. The simplicity of the dressing makes it available at all times and in all places. No specially constructed splint or roller bandage is necessary to retain the arm at least temporarily in the proper position.

L.

Craniotomy for Microcephalic Idiocy

S. M. Blanc (*Lyons Méd.*, Vol. LXXXV, p. 561) concludes that the operation is not a dangerous one and is, moreover, simple. The results, however, are more apparent than real, since microcephaly is due in all probability to an arrest of cerebral development at the fourth month of intra-uterine development, and that little would be expected for an operation on the bones after birth. In post-embryonic cases only could one hope for any actual benefit. In his experience of seven cases there was but little temporary improvement and no lasting help.

J.

Treatment of Stone in the Bladder When Associated with Hypertrophy of the Prostate

E. L. Keyes (*Ann. of Surg.*, May 7, 1898) concludes:

(1) When the stone complicates enlarged prostate, if the condition of the latter be such that were the stone absent no operation would be called for, then the whole question is to be solved by deciding whether the obstructive quality of the prostate enlargement, the size of the bar, the depth of the bas-fond, the irritability of the prostatic

urethra, . . . be sufficiently accentuated to make litholapaxy impossible, or to make it possible only at the expense of having the patient (as to his subjective symptoms) worse than before.

If such conditions do obtain, then the stone should be removed by the knife.

(2) In short, the main matter is one of diagnosis.

(3) The mere size of the prostate is not a factor in the problem.

(4) The size or position of the stone is not a factor, except in the case of encysted stone or one too large for the lithotrite to grasp, or in case of a foreign body.

(5) If lithotomy be performed, the suprapubic route should be the one elected, since this opens the door for more perfect work and allows the surgeon to remove obstructions, and to lower the vesical ends of the urethral floor.

(6) Finally, here, as elsewhere in surgery, the only safe, practical guide is surgical judgment, based upon diagnosis, guided by experience. T.

Some Practical Points in Regard to Herniotomy

A. H. Meisenbach (*Med. Review*, March 12, 1898) concludes: 1. In view of the success of the radical-cure operations, an existing hernia is a possible menace to life, and more so than a radical operation. 2. This fact ought to be impressed on the laity by the family physician. 3. Taxis is a dangerous proceeding, as usually carried out. 4. In all hernia-operations a radical-cure technique should be carried out. 5. Preference should be given an animal suture over silk as a buried suture. 6. In all cases of strangulation where the bowel cannot be easily reduced after the sac is opened, the abdomen should be opened in the median line, for facilitating reduction, establishing drainage, or for anchoring a doubtful, gangrenous, or resected bowel. W.

Abdominal Section as a Medical Measure

Treves (*Brit. Med. Jour.*, March 5, 1898, p. 607) observes that in tuberculous peritonitis exploratory incision alone, without irrigation, drainage, and swabbing, is more successful than when accompanied with these, and attributes the benefit of the incision to altered intra-abdominal pressure. Malignant conditions, like two cases he relates, are often improved by this simple process without any attempt at surgical removal of the affected part. Abdominal section cured certain cases of a nervous character where something like appendicitis was much in the patient's mind; also certain

cases in which the clinical picture corresponded to no known disease. Some of the latter, of which he gives interesting examples, have the character of "intestinal hypochondriasis;" others have a too large and horseshoe-like sigmoid flexure.

The simple exploratory incision has demonstrably cured many cases, cleared up the diagnosis of many others, and yet may not be an unmixed blessing, leading often to neglect of painstaking clinical observation in which it is so difficult to acquire proficiency and which it is so needful to obtain. H.

Gastrostomy by Marwedel's Method

Willy Meyer (*Ann. of Surg.*, XXVII, 650) presented a patient on whom he performed gastrostomy after the method of Marwedel. The essential part of the operation is as follows: After the stomach-wall has been fastened by a continuous suture to the abdominal wound, it is split in a longitudinal direction for about five ctm. The incision is made through the serous and muscular coats down to the mucosa; these layers are then dissected loose from the mucosa on each side, and at the lower angle of the wound an opening is made into the stomach, through which a small rubber tube is introduced and fastened to the mucous membrane with a catgut suture. The serous and muscular coats are then stitched together over the tube. The tube thus runs between the muscular and mucous layer of the gastric wall. In the case presented the patient was able to feed himself by introducing a female catheter through the fistula, withdrawing the instrument after he had finished. He was not troubled with any leakages from the wound. T.

Cecal Hernia with a Classification of Sixty-three Cases

John H. Gibbon (*Phila. Poly.*, Vol. VII, No. 13) classifies sixty-three cases of inguinal or femoral hernia, in which a portion of cecum or appendix was found in the sac. Fourteen of the cases have not been published before, and the rest are collected from recent literature on the subject. The author is led to believe that this variety of hernia is more frequent than is generally supposed, that early youth and old age are the periods of life during which it is most likely to occur, and that, except in adult life, the condition is usually congenital.

In 642 herniotomies done by Coley and Halsted, cecal hernia was met twenty-one times, and only three of these patients were over 15 years of age. Of the present sixty-three cases, thirty-six were in patients under

15 years of age, five were between 15 and 40 years, seven between 40 and 50 years, and fifteen in patients past 50 years.

The condition is more frequent in males than in females, because of difference in structure and because of the descent of testes in the male.

The cause of cecal hernia of the congenital variety is probably the attachment of the appendix and cecum to the testicle before its descent. In adult life this condition is most likely due to a small movable cecum and a pre-existing hernia of small intestine.

The idea regarding the sac of cecal hernia has changed, and it is now generally accepted that the peritoneal covering of this variety of rupture is seldom deficient. This is largely due to investigations made by Mr. Treves.

Regarding the condition of the appendix in these cases, it is concluded that disease of this organ is not as frequent as might be supposed, and it is much more apt to be inflamed when it is alone in the sac than when it is accompanied by other portions of the intestines.

In the table of cases now reported there are several instances of perforation of the appendix in which the sac was filled with pus.

In other classifications, Bajardi's for instance, the diseased appendix is met with much more frequently than in the present series.

The diagnosis can be positively made only when the appendix is palpated, as is often possible in children and in old people when the tissues covering the hernia are very thin.

The treatment differs little from that of other herniæ except when the presence of the appendix is diagnosed. Then operation becomes more imperative because of the danger of returning a diseased appendix to the abdominal cavity. The treatment of the appendix itself in these cases will depend upon its condition and the personal opinion of its removal.

U.

Excision of the Tarsus for Extreme Non-cicatricial Ectropium of the Lower Lid

Dr. A. E. Prince (*Amer. Jour. of Ophth.*, Vol. XV, No. 5, 1898) presents a very simple expedient for the correction of the deformity observed in cases of extreme non-cicatricial ectropium of the lower lid.

He slits the canaliculus, and makes an incision in the conjunctiva about 1 mm. removed from the opening of the Meibomian ducts, carrying this incision the whole

length of the palpebral aperture vertically through the conjunctiva and tarsus by means of a Graefe knife. From the middle portion of the tarsus, the conjunctiva is then separated for a few millimeters, after which the tarsus is divided. Each free end is grasped in turn by means of a forceps, and dissected out to its extreme limits, care being exercised not to excise any conjunctival tissue. Stevens' tenotomy scissors is the best instrument to use for this purpose. No sutures are found necessary. A bandage is applied to be worn for a few days. Direction is given to massage the lid with vaselin, in an upward and inward direction.

In the absence of general anesthesia it will be found best to inject a 4-per-cent. solution of cocaine underneath the tarsus, and apply a 16-per-cent. solution to the conjunctiva by means of a cotton applicator.

G.

Pathogenesis and Treatment of Detachment of the Retina

Sem. méd. (April 6, 1898, p. 147) gives the position taken by Galezowski before the Academy of Medicine of Paris, on the cause of detachment of the retina, which he ascribes to rupture of the festoons of the zonule of Zinn. This would cause filtration of the aqueous humor backwards towards the canal of Petit.

To treat the detachment he proposes to do a ciliotomy in the region of the zonule of Zinn to cause formation of a cicatrix there and prevent further infiltration of the aqueous humor.

Ice applied constantly for a long period lowers temperature and favors healing.

H.

Osteoplastic Amputation of the Leg

O. Lanz (*Semaine med.*, Feb. 9, 1898) describes a process for amputating the leg so as to prevent atrophy of the stump.

He commences by making an oval incision of the soft parts from above downwards and from within outwards. The tibia is sawed at a point opposite the upper end of the oval section, the fibula at the level of the lower portion of the flap. The periosteum of the fibula is next peeled back to the cut end of the tibia, and the fibula is cut off even with the tibia. The periosteum, still attached to its muscular soft parts, is now folded over both cut ends and sutured.

Failing in this, which has not been the case so far, the author would fold in over the ends of the bones the cut-off end of tibia attached still to its periosteum, or enfold it in the periosteum if already detached.

H.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

A Rational Method of Relieving Asphyxia in the Newly-born Infant

Attention is called by S. Stringer (*Virg. Med. Semi-Monthly*, Vol. 3, No. 3, p. 85) to a method based upon chemical and philosophic principles, of relieving asphyxiated newly-born infants. Its object is to maintain fetal life until the sensorium can sufficiently recover to respond to the nervous excitants of respiration. A case of fetal circulation carried on, to the writer's mind, by the aeration of the blood through the medium of the placenta being exposed to the atmospheric air, was the means of utilizing this phenomena in a subsequent case of asphyxia in a newly-born infant. The pulsation in the end becoming feeble, and rapidly so when the placenta was delivered, the latter was cleaned of clots and the maternal surface exposed to the atmospheric air. In a very short time the pulsation perceptibly increased in force, the livid and death-like hue being displaced by one of life, sensibility was restored and the process of respiration commenced. The writer felt certain that had the placenta remained in the os uteri or vagina, excluded as it was from atmospheric air, death from asphyxia would have resulted. At all times the cord should be examined for any interference with free circulation and the same corrected.

L.

The High-forceps Operation in Contraction of the Pelvis

Dr. Toth gives a detailed report of the forceps-operations in the Budapest obstetrical clinic for the last fifteen years (*Montreal Med. Jour.*, XXVII, No. 4), his conclusions are as follows:

1. The high-forceps operation is not so dangerous for mother or child as it is often said to be; on the contrary, it is undeniably more favorable for both than version, especially podalic version in head-presentations.

2. In all cases where the head remains high up, and labor must be terminated in the interests of the mother, and when the suitable time and conditions for version have passed, the high-forceps operation should be tried in preference to perforation of the living child.

3. In all cases of pelvic contraction of the first degree (c. d. over 10.5 cm.), and even of the second degree (c. d. under 10.5 cm.) when the measurements are near the

upper limit, the high-forceps operation is preferable to prophylactic version, as there will be longer delay before operating, thus affording a chance for spontaneous delivery to occur. The same principle should guide us in the management of cases where undue development of the fetus causes a relative disproportion.

4. In cases in which the high-forceps operation fails, perforation should be done without further delay. In favorable conditions, symphysiotomy may be taken into consideration, but podalic version is contraindicated.

5. While the high operation may be performed with different models of forceps, provided they are long enough, the Tarnier instrument is preferable to all others for this operation.

R.

Injuries Due to Pessaries Retained in the Vagina

In view of the important results of neglected pessaries, A. Giles, London (*Med. Press and Circ.*, Vol. CXVI, No. 16, p. 401), notes a number of cases, observing that in the cases related there is a wide variation in the length of time that the pessary had remained in situ. The length of time necessary to cause injurious effects varies, the author reserving the term for cases that had not been attended to for a year or more, a pessary within that time rarely doing much harm. In one case a pessary had been placed in the vagina twelve years previously on account of prolapse of the uterus, and it had not been attended to since. The vaginal orifice was narrow, offensive pus escaping upon examination. Removal was difficult, even under anesthesia. Eventually the vulva tore on each side and a hardwood ring-pessary three inches in diameter, having a central aperture of one inch, was extracted. The rents in the vulva were repaired with catgut. In another case, a pessary of a pattern not in use at present, known as a "Blackbee," similar to a long Thomas' retroflexion pessary, both ends of which had been turned up, was extracted after having remained in the vagina over eight years. A quantity of foul-smelling and blood-stained pus came from the vagina, a horseshoe-shaped ulcerated groove being found, extending down both lateral vaginal walls and across the vaginal vault, the cervix being atrophied. A cystocele protruded through the vulvar outlet with greatly thickened walls. A more thorough examination subsequently detected the presence of a vesicovaginal fistula, the patient refusing operation therefor. In all, twelve cases are re-

ported from the author's personal experience, which support the view that a pessary is not an instrument to be used at random and left without supervision, for it may be not only useless, but harmful. As contraindications to the use of pessaries, the author in the first place holds that whatever the malposition of the pelvic organs a pessary should not be introduced unless the malposition gives rise to symptoms. In the case of unmarried women pessaries are undesirable, except when symptoms are severe and there is a strong probability of cure by their means. Inflammatory conditions of the genital organs contraindicate the use of pessaries, pain and irritation ordinarily resulting. This applies to endometritis and erosion, as well as to pelvic cellulitis, ovariitis, and salpingitis. When the uterus is fixed, pessaries are harmful as well as useless, since no pessary can overcome adhesion. Regarding the dangers of neglect, harm is produced in one of three ways: Misfit, sepsis, or narrowing of the vaginal orifice. Reference is made to operative procedures introduced of late years as having narrowed down the scope of treatment by pessaries. Also, the conditions for which pessaries have been or are used are briefly reviewed, and the methods of radical cure which may be resorted to in place of the palliative measure of pessaries are briefly entered into. L.

Tight Lacing and Female Diseases

Tight lacing is, according to W. E. Fitch (*Jour. of the Am. Med. Assn.*, Vol. XXX, No. 19, p. 1114), not the only cause of maldevelopment of the uterus and accessory organs, causing diseased conditions, but one of the chief factors. The corset exerts its greatest influence, pressure, from above the brim of the pelvis downward, constricting the abdominal walls, the lower part of the thorax, and pushing inward the costal cartilages and often the seventh and eighth overlapping. The greatest constriction occurs, the author believes, in the immediate neighborhood of the stomach, which, when distended, as after a hearty meal, produces the hour-glass stomach found at times in this class of patients. Compression is so great in most cases as to interfere with the normal peristaltic action of the intestines, thereby producing constipation. Compression in any part interferes with physiologic functions. The author concludes as follows:

1. The normal breathing of woman is, like that of man, abdominal. Tight lacing changes the type to costal.

2. The pelvic organs normally make a

considerable excursion with each respiration. Tight lacing in the upright position checks this motion almost entirely.

3. Sitting or leaning forward lessens intra-abdominal pressure. Tight lacing in these positions greatly increases intra-abdominal pressure.

4. The uterus is displaced downward by tight lacing from one to two and a half inches. The pelvic floor is bulged downward and the circulation rendered sluggish.

5. Uterine development is greatest from the twelfth to sixteenth years. Tight lacing is usually commenced at this period. Maldevelopment and displacement of the uterine organs and appendages thus occur. Amenorrhea is frequently the result of a poorly developed mucosa and its adnexa, together with faultily developed ovaries, a condition which, if neglected, often leads to atrophy or congestion with long-continued profuse flow. All women who have practised tight lacing complain, the writer says, of pain on removing the corset, this pain being due to the effort of the organs to assume their normal position. S.

Indications for the Use of the Forceps in the Second Stage of Labor

At a meeting of the Buncombe County Medical Society (reported in the *Charlotte Medical Journal*, Vol. XII, No. 4), Dr. J. A. Watson makes an appeal for the more liberal use of the forceps in hastening the completion of the second stage of normal but tedious labor. Playfair has laid down as a general principle that when we are convinced that the natural efforts of the patient are failing, or unlikely to effect delivery except at a cost of long delay, it is far better to interfere soon than late, and thus prevent the occurrence of serious symptoms accompanying protracted labor. These are the views of a distinguished teacher expressed twenty-five years ago, and were at that time considered a radical advance over the views entertained by his predecessors, who held that the forceps were only to be used in the event of all other known methods having failed, or where death was imminent. During those twenty-five years the advances of science have removed many of the restrictions that were very justly put upon the liberal use of the forceps and have made it possible for us to use with perfect safety to mother and child these valuable aids in the obstetric art. Dr. Watson says that under no circumstances would he advocate that the forceps be applied for economizing the physician's time, nor does he wish to be understood as in any way advocating the indiscriminate and reckless use

of the forceps, but he claims that by the application of antiseptics to obstetric practice, the perfect methods at our command for repairing injuries to the perineum and pelvic floor, and the control of shock and dread obtained through the use of chloroform, are justifiable grounds for an advance in the use of the forceps far beyond that which was held to be the limit in so recent a period as Playfair's time.

He says, "In applying the forceps to these cases, in my judgment it is not necessary to look for the signs of exhaustion, or to be convinced that the natural powers of the patient will be insufficient to end her labor, but it should be enough that the patient has suffered a reasonable number of hours already in her efforts to complete her labor, and that we have at our hand a perfectly safe and easy means of affording her instant and painless relief."

Dr. Watson claims that all hyperesthetic subjects should be chloroformed before the forceps are applied, and that the physician should pass a catheter into the bladder himself to see that it is empty and not leave it to the care of a nurse. Many grave injuries to the bladder may thus be avoided.

U.

Removal of Large Exostosis During Pregnancy

The case in question is related by Dr. Kramer (*Centralbl. f. Chir.*, Vol. XXV, No. 9, 1898). The woman arrived at the hospital while in labor and upon examination the pelvis was found filled with a large exostosis, preventing the delivery of the child. Cesarean section was successfully performed. Two years later the same woman appeared again in the hospital, presenting symptoms of pregnancy of about the sixth month. Dr. Kramer then removed the tumor through the pelvic outlet and scraped the affected spot of the bone about 6 cm. deep. The woman recovered soon from the operation and gave birth to a child at the normally expected time.

S.

The Menopause and Renal Congestion

At a meeting of the Société Médicale des Hôpitaux, Prof. Le Gendre (*Med. Press and Circ.*, Vol. CXVI, No. 1), in a paper on renal congestion at the menopause, arrived at the following conclusions: In certain women at the period of menopause the decrease or the suppression of the menses provokes congestion of the kidney of variable intensity, with a cortège of accidents necessary to know in order to treat properly. These accidents consist in the decrease of the urinary secretion, sometimes

accompanied by slight albuminuria or hematuria, and frequently by severe lumbar pains, nausea, vomiting, and intense headache. The best treatment is local or general blood-letting, or diuretics, milk, theobromine, etc. Renal congestion at the period above mentioned is met with generally in women possessing to a marked degree the attributes of neuro-arthritis.

L.

Precocious Child-bearing

Sage (*Sem. méd.*, Feb. 8, 1898) cites a case of great rarity, that of a girl of 13 years 6 months being delivered of a child at term of about average size. The doctor delivered with forceps from the right occipito-anterior presentation, the boy of 3 kilos, 700 (6 lb.) in weight and 53 cm. (21 in.) in length.

Puerperal Self-Infection

Dr. Jewett (*Am. Gyn. and Obst. Jour.*) concludes:

1. There is no clinical proof that puerperal infection can occur from normal vaginal secretions.
2. All childbed infection in women previously healthy is by contact.
3. Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.
4. Its general adoption in private practice could scarcely fail to be mischievous.
5. In healthy puerperæ, delivered antiseptically, post-partum douching is also contraindicated.
6. A purulent vaginal secretion exposes the women to puerperal infection.
7. In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.
8. Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.
9. In cases of highly infectious secretions, the preliminary disinfection should be followed by douching at intervals of two to three hours during the labor.
10. The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily, for several days during the last weeks of pregnancy.
11. Clinically, the amount of discharge, its gross appearance, and that of the mucus and adjacent cutaneous surfaces usually furnish a sufficient guide to the treatment.
12. Probably unclean contact within twenty-four or forty-eight hours is an indication for prophylactic disinfection.

S.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Pure Water in Lithiasis and in Infected Urinary Organs

Dr. Th. Rovsing (*Klin.-Therap. Wochenschr.*, V, p. 1014) states that the use of alkaline mineral waters in cases of renal colic, pyelitis, or pyelo-nephritis, is not only irrational, but harmful as well. The author found that the alkalis generally increased the renal pains and colic, because under their influence, the carbonates and phosphates of lime of the urine are deposited on the urea and oxalic-acid concretions, whereby the latter are increased in size. Besides, the neutral or alkaline reaction further the development of bacteria, a point of considerable importance in infectious pyelitis. The same may be said of milk, which renders the urine neutral or alkaline, and possesses the disadvantage, besides, of causing constipation. On these grounds the author advises the use of pure water only in the above-named affections. He prescribes the use of from 1½ to 2 liters (say, quarts) of pure or distilled water per day, by which means a thorough flushing of the system and the best results are obtained.

Usefulness of Arsenic in the Treatment of Cutaneous Maladies

J. Abbott Cantrell (*Indian Lancet*, March, 1898) discusses the above subject. His conclusions are that internally arsenic is advisable in affections of the skin which present hypertrophic manifestations such as psoriasis, or where the blood has become changed, as in pemphigus. Externally it removes growths of tissues such as in lupus, thus showing a caustic effect, or where degeneration has occurred, as in epithelioma.

Psoriasis.—This affection is the one in which arsenic performs the greatest number of cures, and one in which the drug usually acts beneficially.

Lichen Planus.—This condition also is greatly benefited by the use of arsenic.

Eczema.—Arsenic is rarely if every beneficial in this cutaneous eruption, but occasionally cases do arise on which its effect is good.

Acne, Acne Rosacea.—Both of these conditions are affected curatively by the internal use of arsenic, either in the form of arsenous acid or that of Fowler's solution.

Pemphigus.—Arsenic is one of the few drugs which have any beneficial effect upon pemphigus, and to get this result it is nec-

essary to begin with a small dose and increase until a distinct impression is made, or at a point where it is noticed that the tolerance of the affected person is reached.

Mycosis Fungoides.—From all of the remedies that have been used in the treatment of mycosis fungoides the selection of arsenic is the only judicious measure.

Sarcoma.—Sarcomatous conditions of the skin have been benefited by the internal administration of arsenic, but the number of failures far outrank the number of cures.

Epithelioma.—In the treatment of epithelioma it is possible that arsenic has its greatest field of external usefulness. This fact is made of great importance by the so-called "cancer doctors," who employ it in the treatment of this condition. Of the preparations usually advised there are a number of ointments which may have decided curative properties. W.

Therapeutic Application of Tannoform

Hesse, of Darmstadt, states (*Aerzt. Rundsch.*, VIII, p. 394) that tannoform is one of the best local remedies for decubitus, diabetic gangrene, and the various forms of moist eczema, its siccative and antihydrotic properties being peculiarly valuable. He has used it with equally good results in impetigo, balanitis, ulcer molle, vaginal blennorrhea, and herpes preputialis, as well as in hemorrhoids, sores, fissures, and rhagades. The use of the remedy gave decided results also in gonorrhea. Tannoform was used, besides, as a wound-antiseptic after operations, on account of its innocuousness and non-irritativeness. Its special value as a remedy for excessive perspiration is exceeded by that of no other, and the remedy may be deemed a specific in all forms of bromidrosis and hyperidrosis. For perspiring feet, a dusting-powder consisting of one part of tannoform and two parts of talcum is valuable; the remedy is applied pure in only very severe cases. In decubitus and in eczema a 10-per-cent. tannoform ointment has yielded excellent results. F.

Asthma of Vesical Origin, and Its Treatment

According to Dr. J. Pawinski, of Warsaw (*Sem. méd.*, XVIII, p. 142), there exists a particular form of asthma due to autointoxication, resulting from the chronic retention of urine, such as may be observed in persons subject to attacks of hypertrophy of the prostate. The respiratory trouble may assume various forms. At times there may be present cardiac symptoms resembling those of cardiac asthma, which may be accompanied by sensations of pain in the precordial region. At other times the

respiration assumes a Cheyne-Stokes character. Or, there may be present a purely subjective dyspnea; that is, patients complain of oppressiveness, of difficulty in respiration, without the number of respiratory movements being really increased. Again, in other cases, the respiration is more or less accelerated, but is unnoticed by the patient. Or, there may even be, at times, a paralysis of the posterior crico-arytenoid muscles due to a change in the nuclei of the inferior laryngeal nerves. Whatever character, however, the respiratory troubles of vesical origin assume, they never assume the type of a bronchial asthma. They never yield to narcotic or cardiac remedies, but disappear, or at least diminish greatly, if care be taken to empty the bladder.

Treatment of Threadworms

Dr. A. Monti states (*Sem. méd.*, XVIII, p. 142) that by means of the following medication, at once purgative and vermifugal, threadworms are removed from the small intestines as well as the large:

Senna 12 gme. (3 dr.)
 Tansy 12 gme.
 Water....to make 80 gme. (2¾ fl. oz.)

Boiling 15 minutes, then add:

Magnesium sul. 2 to 3 gme. (30 to 45 grn.)
 Syrup Manna..... 20 gme. (4 fl. dr.)

Half to be taken in the evening, the other half the following morning.

Intestinal irrigations are to be daily practised, and should consist of aqueous solutions of castile soap (about 0.5 gme. [8 grn.] to from 1 to 3 liters [say quarts], according to the age of the child). These injections should be carried out for a week at least, in order to expel the numerous parasites present in the folds of the large intestine. At times it may be necessary to carry out the injections for even two or three weeks.

Tyrosin as an Antidote to Snake-poison

Phisalix reports (*Deut. med. Ztg.*, XIX, p. 537) that tyrosin, found in considerable quantities in the roots of the dahlia (*Georgine*), possesses considerable power of immunizing against snake-poison. Animals inoculated with an aqueous tyrosin-solution were rendered immune to snake-poison in from twenty-four to forty-eight hours; they manifest no symptoms of general intoxication. The temperature remains unchanged, and only slight local manifestations are observed. When the inoculations are performed at the same time that those of the

snake-poison are made, the tyrosin hinders for a few hours, but does not prevent death; mingled with the poison itself, it is entirely inactive. Even the freshly expressed juice of the plant was found to act like tyrosin. According to the percentage-content of tyrosin in the dahlia, and the relatively small quantity of the juice of the latter required, it may be inferred that the plant contains besides several other antitoxins.

Three of the Animal Extracts

R. A. Bates (*Louisville Jour. Surg. and Med.*, June, 1898) discusses the therapeutics of the thyroid, the suprarenal, and the ovarian extracts. Our knowledge of the thyroid extract dates from the discovery that complete enucleation of the thyroid gland was followed by certain morbid changes. The active principle of the secretion of this gland is believed to be an iodine compound to which the name *thyroidin* has been given; and it has been found that the administration of the extract of the gland, scientifically prepared, has relieved strumipriva, myxedema, and cretinism. In cretinism and myxedema, where there is complete or partial absence of thyroidin, and in strumipriva, where there is a total absence of secretion, there occur arrest of growth, idiocy, delayed puberty, rachitic-like abdomen, hypertrophy of the external genitals, obesity, supraclavicular thickening, eczematous conditions of the skin, premature cavities, sterility, delayed heart-action, subnormal temperature, and fibroid conditions; consequently the thyroid extract has been successfully used in obesity, dwarfed children, impaired mental conditions, tetany, premature gray hair, skin-diseases non-parasitic in origin, pelvic hyperemia, myxedema, cretinism, and cachexia strumipriva. It is contraindicated in goiter and all heart-diseases except those dependent upon fatty changes. The dose of this extract is from two to five grains in powder or tablet form, preferably an hour and a half after meals; it may be increased gradually, but should be discontinued for several days if cardiac palpitation, nausea, weariness, or cephalic and lumbar pains occur.

The suprarenal extract is as yet little known; removal of the adrenals is followed by death in a few hours or several days at most. The symptoms are those of Addison's disease, viz., asthenia, nausea, vomiting, dizziness, fainting spells, arrest of retrograde metamorphosis, anemia, pigmentation, subnormal temperature, paralysis, convulsions, and coma. The suprarenal extract is indicated in all conditions attended by loss of muscular power, probably in the

same cardiac derangements in which digitalis is used, in subnormal temperature, associated with asthenia in anemia and melanemia, in neurasthenia, and conditions requiring vasomotor stimulants, in Addison's disease, diabetes mellitus, gastric and cyclic albuminuria. The dose is the smallest in the materia medica, $\frac{1}{16}$ grn., producing in the adult decided physiological action; the maximum dose, which must be led up to very slowly, is $\frac{1}{10}$ grn.

Of these three extracts the least known is the ovarian, of which the physiological action as thus far observed is vaso-constrictor, "nerve"-sedative, emmenagogue, and anti-anemic. The ovarian extract has been used with benefit in ovarian dysmenorrhea, amenorrhea, the climacteric, neurasthenia, hysteria, mental disorders, lack of development, and after oophorectomy.

These three extracts must be administered with much care, since so little is as yet definitely known concerning them; and, in the cases where ablation has been performed, they must be taken indefinitely, just as food must be repeated to relieve recurring hunger. G.

Pyoktanin Salicylate as an Antiseptic

Dr. G. Cavazzani has found (*Sem. méd.*, XVIII, p. 142) that yellow pyoktanin dimethylaniline is preferable as an antiseptic to the blue or violet pyoktanin, on account of its freedom from the toxic properties of the latter, due to its insolubility in the alkaline fluids of the organism. Yellow pyoktanin, however, is only slightly soluble in water, but its solubility is greatly increased, the writer states, by mixing the pyoktanin with salicylic acid, a salicylate being thus formed which is readily obtainable in the form of a crystalline salt. Solutions containing 5 or 10 per cent. exert a decided antiseptic action, and are very convenient for surgical uses. More concentrated solutions cause an intense, fleeting irritation, characterized by a sensation of burning, followed by cutaneous hyperemia.

Treatment of Whooping-cough with Inhalations of Oxygen Saturated with Medicated Vapors

Dr. Lacroix (*Sem. méd.*, XVIII, p. 130) advances a new form of treatment for whooping-cough. It consists in making inhalations of oxygen saturated with vapors of bromoform and camphor monobromated.

The apparatus used is very simple and consists of a bag filled with oxygen and connected by means of a rubber tube with a saturator containing pieces of pumice-stone; a second tube, terminating in a bone

nozzle, completes the apparatus. The pumice-stone is first saturated with a solution of bromoform in cherry-laurel water, and placed in layers in the saturator, each layer being well dusted over with powdered monobromate camphor, 10 gme. ($2\frac{1}{2}$ dr.) of each of the medicaments being usually employed. The nozzle being inserted between the teeth of the child, a slight pressure forces the oxygen through the saturator, and, charged with the medicated vapors, into the respiratory organs.

This treatment rapidly diminishes the number and intensity of the attacks, causes neither vomiting, fetid stools, nor constipation, and as a rule rapidly improves the general condition. F.

The Properties of Snake-poison

The similarity of action of snake-poisons to bacterial poisons makes it probable that similar methods of experimentation will give equally favorable results. From a practical standpoint also the subject, according to A. K. Stone (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 14, p. 321) has a most important bearing. Statistics at hand show that in India alone about 20,000 persons lose their lives each year from the bites of snakes, and that the loss of cattle and other domestic animals is still larger. When the bite has been severe and the dose of venom injected a large one, drugs have been found to have little if any effect upon the fatal course of the poison. One thing which makes it difficult to estimate the value of any given remedy is the impossibility of knowing how large a dose of venom has been introduced. When a snake strikes, if successful, ten to fifteen drops of the poison are usually discharged from the poison-gland into the wound; if it misses the first time, on striking a second time there is much less poison in the gland which can be injected into the wound. Hence a person may be bitten by one of the most venomous of snakes and yet have only a few drops introduced—enough to produce unpleasant symptoms, but not enough to cause death—and, consequently, many cures may appear to be effected by various drugs which are in reality due to the small dose of the poison. It has been asserted by Calmette that not only is the active principle of all snake-poisons alike, but that it is identical in the poison of scorpions and lizards, and that the differences which have been noted in the action of the venom of various snakes was due to the presence of non-toxic albuminoid substances, which are combined with the active poison in varying amounts. Thus the edema, the general hemorrhages, and the hematuria which are observed for

the most part as following wounds made by the less poisonous snakes are accounted for by the action of the practically inert albuminoids, which can be removed by heat, leaving an active poison, which can be dried and found to be of equal potency and similar action to similar products from the more poisonous snakes. Recent observers are agreed that an animal or person can be vaccinated against what would otherwise be a fatal dose by the subcutaneous introduction of small non-toxic doses of the poison. It has been found that the blood-serum of animals that had been vaccinated against snake-venom has a certain antidotal power; furthermore, Fraser's experiments have shown that the blood-serum of venomous serpents and their gall possessed antidotal properties, but to a much less degree than the blood-serum of immunized animals. That the poison is inert when taken into the stomach direct, or by sucking a poisonous wound, is also a fact, the poison not being absorbed by the walls of the stomach nor changed by the action of the gastric juice, but it is rapidly decomposed and rendered inert in the intestine before it can be absorbed. This fact pointed to a possible antidotal action in the bile, and to a later series of experiments by Fraser on this line. A decided obstacle, however, to the use of bile as an antidote is the fact that bile itself is poisonous when introduced subcutaneously, some of the animals experimented upon, though saved from snake-poison, dying after four days with symptoms of bile-poisoning. Finally, a series of recent experiments by Calmette shows that serum from horses made immune to snake-poison by the venom of the most poisonous snakes has the effect of counteracting the poison of all varieties of snake-venom, and that the serum can be obtained of such strength and concentration as to make it a practical remedy.

L.

Guaiacol as a Local Anesthetic

Dr. Newcomb (*New York Med. Jour.*, Vol. LXVI, No. 9) says that in minor operations on the nose and throat, where cocaine is for any reason inadmissible, guaiacol forms a good substitute in the majority of cases. Dr. Newcomb has employed the remedy thirty-six times for the removal of polypi, curetting of ethmoid cells, removal of spurs, etc., and in fourteen cases the anesthesia was perfect, in sixteen partial, very slight in two, and wanting altogether in four. But the failures the author ascribes to the insufficiency of the time of application.

In paracentesis of the drum-membrane guaiacol should prove of great value, be-

cause at this particular anatomical site cocaine has but very little effect, as we have to do with a surface which is essentially cutaneous rather than mucous in structure.

The author uses the guaiacol in a 5-per-cent. oily solution, and his formula is as follows:

To a given quantity of olive-oil, add 10 per cent. of dried sulphate of zinc, by weight. Heat this over a water-bath for an hour, filter, and then introduce 12½ per cent., by weight, of absolute alcohol. Shake occasionally for a few days, then decant, and introduce 5 per cent. of pure guaiacol.

The addition of the zinc sulphate is for the purpose of clearing the oil of its albuminoids and resinoids, and the absolute alcohol clears it of its fatty acids. With ordinary olive-oil, even the purest, guaiacol does not mix well.

R.

Thyroid Extract for Backward Children

Dukes (*Brit. Med. Jour.*, 1898, p. 618) reports some excellent results from the administration of thyroid to a child who, from the history, would appear to have been physically rather than mentally backward. She was well formed and intelligent, but small and anemic, notwithstanding tonic treatment. At the age of fifteen she appeared like a child of 8 or 9.

On a 5 grn. tablet of "thyroid extract" once a day, increased later to twice a day, she commenced to lose her pallor, and has grown more brisk and lively.

J.

Acetate of Thallium in the Night-sweats of Phthisis

The Paris correspondent of the *London Lancet*, on page 684 (Vol. I, 1898), says that at a late meeting of the Academy of Medicine, in that city, Professor Combermale, of Lille, mentioned that he had administered this drug in the form of pills of 10 ctg. in cases of excessive sweating. In thirty patients, either tuberculous or affected with some other disease, who suffered from profuse nocturnal sweats one only was not at all benefited and one other was slightly relieved without being completely cured. Those patients who suffered from large cavities and were very cachectic were most benefited, for contrary to other anti-sudorifics the acetate of thallium produces its greatest effect in very cachectic patients, and those suffering from leucocythemia are also much benefited. In old cases of tubercle which are drying up or in those in which softening is just beginning the drug has not the least effect. Old cases of bronchial dilatation and of chronic bronchitis, which suffer from

sweating as much as tuberculous patients do, also derived benefit from the acetate of thallium. The daily dose is from 10 ctg. up to in some cases 20 ctg. It must not be given for more than four days in succession, for its effects are very lasting and persist for from eight to ten days, but refractory cases show no improvement even after eight days. The drug ought to be given about an hour before the time when the profuse sweating generally begins. In three cases complete alopecia followed the use of the drug. In from two to eight days the patients lost all their hair, but it is to be remembered that they had already begun to lose their hair and had taken from 80 to 110 ctg. of thallium acetate in the course of a month. On the other hand, tuberculous patients under the same conditions whose sweating had been arrested by two doses did not suffer from this sudden loss of hair. Professor Combemale concluded that this accident need not be feared except after prolonged use of the drug or too frequent doses.

Treatment of Tabes Dorsalis with "Sperminum"

Werbitzky (*Deut. med. Woch.*, Vol. XXIII, p. 67) reports the results of two cases of tabes dorsalis treated with "Sperminum Poehl." He concludes that there has been an improvement in all of the sensory impressions, with diminution of pain and improvement of the general tone. There has been a distinct increase in the muscular strength and muscular sensibility, diminution of the ataxia, and an improvement in the eye-symptoms. J.

Ichthyol in Pulmonary Tuberculosis

Drs. Combemale and Desoil report (*Rev. de Therap. méd.-chirurg.*, LXV, p. 311) having used ichthyol alone in 110 cases of pulmonary tuberculosis, of which number 70 took the remedy for over one month, 30 for over three months, and 10 for six months. The ichthyol was given pure, or in pills or capsules, the beginning dose being about 1 gme., and increasing every week by 1 gme. until 4 gme. were taken. This quantity was well borne, excepting in a very few cases in which diarrhea was caused, which, however, was generally checked by bismuth subgallate. The remedy increased the nutrition, and the patients increased in weight, the fever and sweats diminished and finally ceased, the strength returned, and in women menstruation reappeared. The improvement in the general condition occurred, however, only when the doses of the ichthyol exceeded 2 gme., and in these doses, the expectorations are

modified, becoming more fluid, and are easily expelled. In doses of 3 gme. the expectorations become less purulent and fetid. Care must be taken, however, the authors state, not to suppress the expectoration too suddenly in advanced cases, or to bring about congestive phenomena, or even diarrhea, by exhibiting too large doses of ichthyol.

Formaldehyde-irrigations in Ozena

According to G. L. Richards (*Sem. méd.*, XVIII, p. 134) irrigations of the nasal fossæ with a formaldehyde-solution constitute an excellent remedy for fetid atrophic rhinitis. The irrigations should be made by the practitioner, and should contain from 5 to 10 drops of formaldehyde in 250 gme. (say 8 oz.) of warm water. Before irrigating, all the crusts should be removed by syringing the nasal fossæ with a weakly alkaline solution, and the use of a cotton tampon on the end of a sound. As formaldehyde is extremely irritating to the pituitary, it is advantageous to previously anesthetize the mucosa by means of a cocaine spray. The patient should, besides, practice daily nasal douches of warm water to which a drop of formaldehyde has been added. F.

Expectorant Pills

The following formulas are given in *Ges. Therapie* (p. 314, 1898):

- R Terpin hydrate..... 3.0 (grn. xlv)
 Powdered licorice..... 1.0 (grn. xv)
 Ext. of licorice..... 2.0 (grn. xxx)
 M. f. pil. No. XXX. S.—Two pills t. i. d.
- R Morphine hydrochlorate.. 0.06 (grn. i)
 Ipecac..... 0.20 (grn. iii)
 Sulphurated antimony... 0.30 (grn. v)
 Glycyrrhiza..... 1.50 (grn. xxiv)
 Sugar..... 1.50 (grn. xxiv)
 M. f. pil. No. XXX. Two pills t. i. d. R.

Substitution of Sodium Permanganate for Potassium Permanganate in Morphine- or Phosphorus-Poisoning

The lower toxicity of the sodium permanganate has led Dr. E. Schreiber (*Sem. d.*, XVIII, p. 134) to employ it instead of the potassium salt in cases of poisoning by morphine or phosphorus. The results of investigations on dogs led him to recommend it as very effective, applied as follows: The stomach is first washed out with a 0.2-per-cent. sodium-permanganate solution, and then 500 cc. of the same liquid ingested; the procedure being repeated in a few hours. When no apparatus is at hand for washing the stomach, emesis should be provoked by subcutaneous injections of apomorphine. F.

REVIEWS

A Compendium of Insanity. By John B. Chapin, M.D., LL.D., Physician-in-Chief, Pennsylvania Hospital for the Insane; late Physician-Superintendent of the Willard State Hospital, New York, etc. 12mo., illustrated. Philadelphia: W. B. Saunders. Price, cloth, \$1.25.

The average medical man and the intelligent student of medicine, while wishing to have their reading-matter in as condensed a form as possible, very properly avoid that class of books which we ordinarily find under the title of "compendiums." For this reason we regret the employment of the word "compendium" in the title of Dr. Chapin's book as apt to be misleading.

The author has succeeded admirably, in the present instance, in placing his compended matter before the reader in a plain and, at the same time, interesting form.

Dr. Chapin's classification of insanity is that oftenest approved by the alienists of to-day.

After a general discussion of insanity the author adds several excellent chapters upon epilepsy, abnormal psychical states, morbid anatomy, medical certificates, and feigned insanity.

Altogether the work is to be recommended to the general practitioner and student of medicine.

The press-work is good.

Ear-Records. A Method of Recording Ear Cases. Arranged by John C. Lester, M.D., Fellow of the American Academy of Medicine, etc., etc., and Vincent Gomez, M.D., Ophthalmologist to the Almshouse, Workhouse, and Incurable hospitals, etc., etc. New York: J. W. & Geo. H. Hahn, 26 East Twenty-third street.

In these days of specialization in medicine, it is not surprising to find special attention given to time-saving methods of recording histories of cases. In the practice of otology so much time is consumed in making and recording a complete examination of a patient that easy methods of taking down the history are especially desirable. This is emphatically true of hospital work in otology where full histories are desirable, and the time for taking them is limited. Drs. Lester and Gomez, availing themselves of the best that has been done in this line, have brought out a new case-record deserving of special commendation. In the first place, it is not a series of dissociated leaflets which may be lost from file, as cards may be in the ordinary card system, but a well-bound book of 350 pages with substantial board covers and the finest paper for pen-records. In the next place, the arrangement of the history is such that the aurist is saved the labor of thinking out the history. The whole field to be covered has been gone over in detail by the painstaking authors and put together under their appropriate groupings, so that mere selection at the time of making the record is the only effort called for. This has been done without sacrificing compactness. In fine print the groups are so arranged that a mere pen-stroke will write a complete phase of the patient's history. Two pages are devoted to each case. One-half the first page has the personal history and remarks; the other half has the functional examination and space for remarks. The second page has the physical examination, former treatment and remarks. Here a large space (half-page) is left

for fuller writing. Under the head of treatment, nearly all the routine and special methods are given, and a pen-stroke is sufficient to indicate which one the aurist selects. There are almost no defects. If we were hypercritical we might object to the association of English adjectives, like *acute* and *chronic*, with a Latin term *sicca* in naming the forms of pharyngitis. While the authors have inserted the name Rinné in the conduction-test, they have happily avoided suggesting the objectionable terms Rinné + and —, though they are evidently thinking of them.

This book ought to have a welcome entrance into every aurist's office. In no other specialty is such a prepared history-form so indispensable. The size 9x12 inches is as little cumbersome as such a book could well be. A good thumb-index for 150 cases and 50 extra blank pages for extended notes on irregular cases, give it a most convenient adaptability. Withal its completeness is not less remarkable than its simplicity.

Therapie der Hautkrankheiten. Von Dr. I. Leistikow, mit einem Vorwort von Dr. P. G. Unna. Verlag von Leopold Voss: Hamburg und Leipzig.

The primary object of the author was to describe the various methods of treating skin-diseases, principally as they are practised in Unna's Clinic, in which he has been chief assistant for many years. But for the sake of completeness the author decided to include also methods of treatment and remedies which are recommended and employed by other representative dermatologists. And we must give the author justice: he succeeded in presenting dermatological therapeutics of to-day in a very complete manner. The book is in two parts: a general and a special. In the general part (pages 1-130) the internal remedies and the various local applications, such as ointments, cerates, plasters, pastes, "mulls," varnishes, collodions, etc., etc., receive full and satisfactory treatment. In the special part (pages 131-381) the diseases and affections of the skin and of its appendages are taken up separately and the remedies indicated in each are given with great detail. Prescriptions are to be found on every page. A complete index (pages 382-408) concludes this useful volume.

Our readers who are in any way interested in eclectic remedies or who have curiosity to know what kinds of remedies eclectic physicians use and how they are prepared will be pleased to learn that a new edition of King's American Eclectic Dispensatory will soon be on the market. It is entirely rewritten and enlarged by Harvey W. Felter, M.D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O., and John Uri Lloyd, Ph.M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute, Cincinnati, O., author of the Chemistry of Medicines, Drugs and Medicines of North America, Etidorhpa, etc., etc. Two-volume edition, royal octavo, each volume containing over 950 pages with complete indexes. Cloth \$4.50 per volume post-paid. Sheep \$5 per volume postpaid. Advance subscriptions received by the Scudder Brothers Co., No. 1009 Plum street, Cincinnati, Ohio, General Agents.

Dr. Thomas C. Allbutt, Regius Professor of Medicine at Cambridge, England, and author of Allbutt's System of Medicine, lately passed through the United States on a trip to Japan. At San Francisco he delivered a lecture before the students of Cooper Medical College.

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EDITOR'S NOTES

In a recent number of the AMERICAN MEDICO-SURGICAL BULLETIN we called attention to the experiments of Cunningham, and to his conclusions that the toxic symptoms produced by the thyroid extract were the results of the presence of decomposition-products, and that extracts made from various other animal tissues, glandular and otherwise, caused similar symptoms. We wish now to note an article published in a recent number of the English *Journal of Physiology* (Vol. XXII), by Swale Vincent, in which after trials of the extract of spleen, kidney, liver, muscle, and brain, the conclusion was reached that none of these extracts has any poisonous effects when administered hypodermically, and that—to quote the author—"it appears probable that the suprarenal gland (with the exception possibly of the thyroid) is the only mammalian gland or tissue which produces toxic effects when a boiled and filtered extract is administered subcutaneously." It is interesting to observe that according to Vincent the most noticeable result produced by the hypodermic injection of the extract of suprarenal capsules was an enormous increase in the rapidity of the respiratory movements. No attempt was made to measure the amount of air actually moved by the breathing of the animals, so that the subject is incomplete, but it would appear as though in some instances, at least, extract

of the suprarenal bodies is a respiratory as well as a circulatory stimulant. In conclusion we think that our readers will agree with us that there is still room for the pioneer worker in the land of the animal extracts who will take up a "homestead" there.

Hassun Emer Pasha, the representative of the government of Turkey, who was present at the attack of Santiago, in a recent interview said:

I saw many wounded at Siboney, where they mixed the wounded with the sick in a manner I have never seen in Europe and do not believe would be done there. The arrangements for caring for the wounded were utterly inadequate even when it is considered that the percentage of the wounded was far below the established percentage.

These are the unbiased words of a stranger regarding a matter of personal observation and yet there are those who assert that no outside help is needed to care for our sick and wounded soldiers. Ship-loads of them are reported as having been sent to sea without adequate medical attendance and with little or no medical supplies, where only the kind care of the ladies of the Red Cross Society came in to lessen their sufferings, and yet we are told that Red Cross help is not needed. Before the war had begun there were those who raised a cry against this society, saying that it had no right to the title it bore. The President was asked to forbid the use of the same except by army surgeons. What does it all mean? Why has Surgeon-General Sternberg declared that Red Cross nurses are not wanted and that they are in the way? Why discriminate against these nurses in this manner and not say one word against Sisters of Charity when they undertake to perform similar kindly Christian deeds? Who will favor us by shedding some light on a matter so important?

Extremes meet. Baltimore, the home of Johns Hopkins University Medical College, is about to establish a freak institution in the shape of a hospital and college where alcohol in every form is to be tabooed. The giving of strychnine, aconitine, atropine, morphine, hydrocyanic acid, abrin, hyoscyamine, and other harmless non-toxic substances will form part of the treatment, but that terribly poisonous article, brandy, is to be religiously excluded. In it, the promoters of this new institution can see no good. In their estimation it has no therapeutic qualities. We have not learned how they intend to purify the essences, elixirs, tinctures, and fluid extracts prescribed, or

whether they will forbid their patients breathing air poisoned with colognes. We suppose they will seek to be logical and consistent. If so, then they must necessarily forbid every person under their care eating baker's bread, and when they resort to anesthesia in surgical cases will choose nitrous oxide and avoid ether and chloroform. It will be interesting to watch this new move and see what comes of it.

The United States has granted a patent on antitoxin to Dr. Emil Behring. Eighteen years ago there appeared in the *Comptes Rendus* (XCL, 1880, p. 303) and also in the *Bulletin de l'Académie de Médecine* (1880, p. 753) reports of a discovery by Dr. Toussaint which we believe would have completely blocked the promoters of the Behring patent on antitoxin if some one had shown them to the Board of Appeals in Washington before it gave its decision. At that early date Toussaint took sterilized blood from animals made immune to anthrax and injected it into susceptible animals, which were thereby enabled to resist inoculations with active anthrax virus. In these experiments every principle is involved that Dr. Behring lays claim to, and yet they were made several years before the world had heard of Behring. Overshadowed by an explanation of Pasteur's, Dr. Toussaint's work was forgotten until years later, when others proceeded from where he left off. Many others besides Dr. Behring had a hand in perfecting Toussaint's work. The manufacturers of antitoxin should not suffer this Behring claim to go unchallenged. We have heard of one firm that will certainly fight it, and that pledges itself to defend all dealers and users of its antitoxin against the promoters of the Behring claim should any attempt at intimidation be made.

Thyroid Gland in Hemophilia

The following case was reported by Dr. Combemale at the French Congress of Internal Medicine (*La Méd. mod.*, 30 April, p. 278). The patient was a lady of 38, a principal of a school, in whom the least cut or scratch gave rise to severe hemorrhages; besides, she suffered with frequently repeated epistaxis and metrorrhagia. For the last two years she had been suffering from hemorrhages from the larynx, which made her believe herself tuberculous; once she had a severe hemorrhage from the bowels. The various remedies and methods of treatment, such as ergotinine, oxygenated water, tamponade of the nasal fossæ, nasal and pharyngeal cauterization, tonics, etc., proved absolutely ineffectual.

Covered with purpuric spots, her gums

bleeding, with her throat every morning full of blood-clots, her condition can be imagined; she was extremely weak and exhausted, and the prognosis seemed very grave. It is important to note that hysteria, syphilis, and alcoholism were no factors in this case, and that the heart and kidneys were healthy. Treatment with thyroid tablets was then commenced. In ten days there was a very marked and evident improvement: there was no purpura, no bleeding from the gums. In ten more days she had perfectly normal menses; all other hemorrhages stopped. R.

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OBITUARY

The news of the sudden and unexpected death of Dr. William Pepper, of Philadelphia, Pa., at Castle Verona, Pleasanton, California, on Thursday evening, July 28, was a painful surprise to his multitude of friends and acquaintances throughout Europe and North America. Although known to have been indisposed as a result of overwork and an attack of gripe, no one expected so serious a termination to his ailment, particularly as he had written to his friends in Philadelphia a few days before that he was feeling better, sleeping better, and gaining strength. He went to California to recuperate on the ranch of the late Senator Hearst, Dr. Alonzo E. Taylor, of Philadelphia, accompanying him.

Dr. William Pepper was born in Philadelphia August 21, 1843, the son of Dr. William Pepper, who was a distinguished physician and held the chair of Theory and Practice of Medicine in the University of Pennsylvania from 1860 to 1864. The son was graduated from the Collegiate Department of the University in 1862, and from the Medical Department in 1864. In 1868 he became

a lecturer on Morbid Anatomy in the University, and from 1870 to 1876 was lecturer on Clinical Medicine. He was Professor of Clinical Medicine in 1876-7. In the latter year he was elected Professor of the Theory and Practice of Medicine succeeding Dr. Stille, the post once held by his father, and held it up to the time of his death.

While holding this last office Dr. Pepper was, in 1881, elected Provost of the University, succeeding Provost Stille, and becoming the eleventh Provost of the institution.

Under his guidance and push the institution has grown in size, wealth, and strength to a greater degree than any like institution in the country during the same period. In 1894, when he retired from the provostship, it was shown that from 981 students during his first year it had increased to 2180 in his last. Within that period the following departments were created:

The Wharton School, Veterinary School and Hospital, the Biological School, the Graduate Department, Department for Women, the Department of Physical Education, the Department of Archaeology, and the Laboratories of Hygiene and of Chemistry.

When he undertook to increase the time of study for medical students and to raise the grade he met with considerable opposition. He succeeded, however, in having his own way by making the following offer, which was accepted:

"Being impressed with the urgent importance of higher medical education, and believing that it is the duty and the privilege of the Medical Department of the University of Pennsylvania to be the leader in this, the final reform of medical education in America, I beg to submit the following proposition: That on condition the University shall decide and announce before June 1, 1891, that a four-year obligatory graded course of medical study shall be established on or before September 1, 1891, I will subscribe towards a permanent endowment fund of \$250,000 for the Medical Department the sum of \$50,000, subject to the conditions below recited; and towards a guarantee fund of \$20,000 per annum for five years the sum of \$1000 annually during that period."

Dr. Pepper was Vice-President of the American Philosophical Society, and was elected President of the first Pan-American Medical Congress, which convened in Washington in 1893. He was largely instrumental in founding the Pennsylvania Museum and School of Industrial Art, and was for several years a member of its Board of Managers. He was a Fellow of the College of Physicians, member of the Pathological Society of Philadelphia, of which he was President in 1873-76; of the Academy of Natural Sciences, in which he was Director of the Biological Section; of the American Climatological Association, of which he was President in 1886, and of many other learned bodies.

Dr. Pepper is known to many physicians as the editor of the System of Medicine by American Authors, the Text-Book of the Practice of Medicine by American Teachers, and as joint author with Dr. Meigs of a work on Diseases of Children.

In 1873, Dr. Pepper married Miss Frances Sergeant Perry, a granddaughter of Commodore Oliver Hazard Perry, and a lineal descendant of Benjamin Franklin. Four sons have been the result of this marriage, of whom three survive, Dr. William Pepper, Jr., the eldest, who has recently graduated in medicine; Benjamin Franklin Pepper, who is a private in Battery A, about to sail for Porto Rico, and Oliver Hazard Perry Pepper, who is 13 years of age.

NEWS

According to the London *Lancet* Admiral Dewey showed his pluck as a patient when suffering from abscess of the liver at the British Royal Hospital at Malta in 1883.

Four hundred thousand dollars has been appropriated by the Maryland state legislature to help Johns Hopkins University over the financial troubles that came upon it by the default of the B. and O. railway.

The Pasteur Institute of New York City has removed its laboratory from Ninety-seventh street and Central Park West to the Ramapo Hills on the outskirts of Tuxedo. The New York office is at 313 West Twenty-third street.

The Tri-State Medical Society of Ohio, Indiana, and Michigan met at Elkhart, Ind., on July 19. The attendance was good. Dr. H. C. Wyman, of Detroit, Mich., presided. A number of well-written and interesting papers were read.

The Atlanta *Constitution* informs its readers that the government is arranging to make Fort McPherson, Atlanta, Ga., one of the largest hospital-stations for the army in the United States. Many new tents have been erected, the barracks-houses are being utilized as wards, and a large force has been employed to care for the sick.

Health-Commissioner Jones, of Baltimore, Md., foresees danger to that city from yellow fever unless something is done to protect it. He asks that governmental and other ships from Cuba be compelled to stay out in the harbor one day before landing passengers, that the alleys be cleaned, the sewers improved, and the sanitary laws enforced.

Two physicians in Pittsburg, Pa., have been sued for \$10,000 damages for refusing on the evening of June 2 to call and see Mr. James O'Brien, who was taken with severe cramps and who died from the same because a doctor could not be secured in time to save him. In view of the socialistic tendencies of the times it will be interesting to know how this suit will end.

The triennial meeting of the College of Physicians and Surgeons of Quebec was held at Laval University, Montreal, on July 13. Nearly five hundred members were in attendance and before and during the election uproar characterized the proceedings to such an extent that the local press declared it like a bear-garden. The reform ticket won. The new president is Dr. Lachapelle.

The faculty of the Baltimore University School of Medicine has had a disagreement and a break-up. The directors have chosen Dr. E. Miller Reid as president to take the place of Dr. J. B. Schwatka, and Dr. E. H. Biedler as dean instead of Dr. P. B. Muse. Fourteen members of the faculty resigned in a body. The total number of members is twenty-one, so that those who resigned had a two-thirds majority.

In the case of Milliken vs. Paquin, in the St. Louis Circuit Court, Dr. Paquin has come out victor, thus being vindicated by the court after a full trial. The *Medical Mirror* devotes a page and a half in an editorial on the vindication of Dr. Paquin. The editor says: "And now with regard to Dr. Paul Paquin, and his anti-tubercu-

lar serum. The editor of this journal has been familiar from the beginning with his work and his statistics, and has never had any reason to question any of them."

In referring to cases of medical heroism the *Montreal Gazette* says that Lieutenant Churchill, in his book on the Malakand campaign, gives one that will rank with the best. In the fight for the pass, Lieutenant Ford was wounded in the shoulder. The bullet cut the artery, and he was bleeding to death, when Surgeon-Lieutenant V. Hugo came to his aid. The fire was too hot to allow lights to be used. There was no cover of any sort. Nevertheless, the surgeon struck a match and examined the wound. The match went out amid a splutter of bullets, but by its uncertain light he saw the nature of the injury. The officer had fainted from loss of blood. The doctor seized the artery, and as no other ligature was forthcoming, he remained under the fire for three hours, holding a man's life between his finger and thumb. When at length it seemed the enemy had broken into the camp, he picked up the still unconscious officer in his arms, and, without relaxing his hold, bore him to a place of safety.

The *Utica Herald* says that the final report of the casualties in the American army since it landed in Cuba shows that there were 246 killed, of whom 21 were officers; 1584 wounded, of whom 98 were officers, and 84 missing, among whom were no officers. The total casualties were thus 1914. It is probable that many of those classed as missing were killed.

An interesting fact in reference to the wounded is that only sixty-eight of the 1584 have died. The number of septic wounds has been remarkably small. In the field-hospital only two cases of gangrene developed. These cases may have been due to wounds made by brass-covered bullets, which were used by some of the Spanish guerrillas. The wounds made by the regular steel-covered bullets of the Mauser rifles generally yielded to the antiseptic treatment. There was no fever, and no pus formed. The gauze pads supplied to the soldiers in the emergency packages were all rendered antiseptic with bichloride of mercury. Very intelligent use of these packages was made by the men, which were about the only things except their guns that they would not throw away in their anxiety to lighten their burdens when advancing to attack. The result was that, when a soldier was wounded, his own emergency-package furnished the material with which not only to stop hemorrhage, but also to make his wound aseptic.

J. H. Aubere, writing to the *New Orleans Item* from Chickamauga camp, says that Dr. Crawford, of the Second Missouri, when asked what diseases among the soldiers troubled the surgeons most, replied: "Malingering and nostalgic cases give surgeons the most work and the poorest results. Fortunately, the American army is composed of volunteers who enter the service of the government of their own free will, and, as a rule, nearly all such soldiers are brave men, fixed in their purpose to remain in the army and faithfully serve their country. But once in a while the surgeon finds malingerers, and so I mention malingering as a troublesome disease not infrequently seen in camp. There may be bodily ailments attending malingering, or leading up to the conditions found in such cases, but frequently the mind is the seat of the disease, gives out and holds a curious combination of melancholy and hopeless expectancy, if I may use the phrase, which, proceeding from the mind, stamps the

faces of these victims with an active despair, and their bodies with a feeble resistance to their mental and physical state, and thus they become malingerers, incurables and useless in the service. The clinical history of typhoid fever, its pathology, treatment, and cure are open secrets to the surgeon; he is familiar with traumatic lesions, blood-poisoning of various kinds, their treatment and cure, but the malingeringer is not only the mystery of the hospital, but the one shadow that forever hangs heavy and low over the head and heart of the faithful surgeon.

"Nostalgia is another camp-disease that brings grief, work, and worry to the surgeon. This is unmixed and unrelieved homesickness. Its clinical history and pathology are in camp; its cure is at home. The nostalgic travels toward, but never reaches home, hence his life is little less than a lingering, torturesome death. He loves wife, child, sweetheart, and home no more than thousands of soldiers love them, but the nostalgic has grown morbid in mind, and this is disease."

Surgeon-General C. M. Tebault, of the United Confederate Veterans, issued a circular to the survivors of the medical corps of the army and navy of the confederate states, calling on them to attend the eighth annual reunion of the United Confederate Veterans, at Atlanta, Ga., which met July 20 to 23. In it he said:

"The destruction by fire of the medical and surgical records of the confederate states, deposited in the surgeon-general's office in Richmond, Va., in April, 1865, renders the roster of the medical corps somewhat imperfect, hence the need of concerted action on the part of the survivors to bridge this hiatus. The official list of the paroled officers and men of the army of northern Virginia, surrendered by General R. E. Lee, April 9, 1865, furnished 310 surgeons and assistant surgeons. In the first report, presented at the Richmond reunion, I showed that the medical roster for the army of Tennessee has been preserved in duplicate. I shall offer in a more detailed report data to prove indisputably important facts relating to the prisoners of war upon both sides, with the purpose of establishing the death-rate responsibility in the premises. It will suffice to mention here that the report of Mr. Stanton, as secretary of war, on the 19th of July, 1866, exhibits the fact that of the federal prisoners in confederate hands during the war only 22,570 died; while of the confederate prisoners in federal hands 26,436 died. This report does not set forth the exact number of prisoners held by each side respectively. These facts were given more in detail in a subsequent report by Surgeon-General Barnes, of the United States Army. That the whole number of federal prisoners captured by the confederates and held in southern prisons from first to last during the war was in round numbers 270,000, while the whole number of confederates captured and held in prisons by the federals was in like round numbers only 220,000. From these two reports it appears that with 50,000 more prisoners in southern stockades or other modes of confinement, the deaths were nearly 4,000 less. According to these figures the percentum of federal deaths in southern prisons was under nine; while the percentum of confederate deaths in northern prisons was over twelve. These mortuary statistics are of no small weight in determining on which side there was the most neglect, cruelty, and inhumanity, proclaiming as they do a loss by death of more than 3 per cent. of confederates over federals in prisons, while the federals had an unstinted command of everything."

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EDITORIAL

ASIATIC ARROW-POISONS

THE peregrinations of English and American travelers in Africa, and the various political changes and fermentations which have been the fruit of their discoveries—the war with Spain and the consequent bringing of attention to the Philippine Islands—have produced so much of general interest in the wild natives of these various remote regions, that we have thought it justifiable to prepare for our readers a general summary of what is known in regard to the poisons used by them for the killing of game and the destruction of their enemies. In doing this we have thought that a geographical arrangement might well suffice.

No arrow-poisons have ever, so far as we know, been used by the North-American Indians. From South America come the curares, which have become articles of commerce and are so well known that we shall not occupy any of the limited space at our disposal with their discussion.

Of the Asiatic arrow-poisons the most important are those which have long been used by the natives of Java and other East India islands under the names of Upas antiar and Upas tieute. The Upas antiar is a gum-resinous exudation obtained from the *Antiaris toxicaria*, a large tree, belonging to the *Urticaceæ*, growing in Java, Celebes,

and the neighboring islands. Like certain species of *Rhus*, this plant exhales aeriform matter, which very unpleasantly affects some of those who approach it, causing eruptions upon the skin attended with much swelling; hence the fable of the deadly upas-tree. The juice is mixed with various substances to give it due consistency. Whether taken internally or introduced into the system through a wound, upas acts with extreme violence, producing vomiting, great prostration, a feeble, irregular pulse, involuntary evacuations, and convulsive movements, which are soon followed by death. Maurice Doyon found Upas antiar to be a powerful cardiac poison, causing in small doses rise of the arterial pressure, largely by an action upon the vaso-centers, but in large doses arresting the heart.

Pelletier and Caventou obtained from it a glucoside, *antiarin*, crystallizable, soluble in water and alcohol, but scarcely so in ether, and having the formula $C_{14}H_{20}O_{50}$. Antiarin acts directly upon the cardiac muscle, diminishing the irritability of the peripheral vagus and stimulating the vaso-motor centers. It belongs to the digitalis group.

According to the experiments of Stockman, antiarin is the most active of known cardiac poisons, the relative powers of strophanthin, urechitin, and antiarin being such that 1-4500 grn. strophanthin, 1-2600 urechitin, 1-6400 grn. antiarin are equivalents. H. W. Bettink claims that be-

sides antiarin there are present in *Upas antiar* two other active principles, for which he proposes the names of *oepian* and *toxicarine*.

The *Upas tieute* is said to be obtained from a climbing woody plant growing exclusively in Java, the *Strychnos tieute* of Leschenault. This author states that a decoction of the bark of the root is concentrated to the consistence of a thin syrup, then mixed with onions, garlic, pepper, etc., and allowed to stand till it becomes clear. This poison produces death in violent convulsion, and strychnine is said to have been found in it.

It is very probable that different extracts are employed by different tribes in the islands of the Malay Archipelago. Dr. Braidwood found the arrow-poison known as *dajaksh* to be a cardiac paralyzant. It is not clear whether this is or is not the same as an arrow-poison produced in Borneo, which was recently examined by Prof. Leubuscher.

This is described as a blackish-brown, structureless extract, with yellowish streaks through it; it is believed by Prof. Leubuscher to contain an alkaloid which he failed to isolate. This poison produced in the lower animals great muscular relaxation, with convulsive movements and cardiac arrest in systole. It was found to have no direct effect on the respiration, the peripheral nerves or muscles. In the higher animals the blood-pressure was reduced even by minute doses; the action upon the heart appeared to be direct.

The arrow-poison used by the natives of the Philippine Islands is, according to the researches of P. C. Plugge, obtained from the *Rabelaisia philippinensis*. Plugge has found in it a non-nitrogenous glucoside, *rabelaisi*. This, given in very large doses, produced in animals some convulsive movements, followed by profound muscular re-

laxation, loss of reflexes, and general paralysis, ending in death from asphyxia. On the heart it acted as an energetic stimulant, belonging to the digitalin group. In the frog 0.008 mg. produced great cardiac excitement.

An arrow-poison is used by the Malays under the name of *ipoh*, which is stated to be obtained from *Derris elliptica*, or the tuba-root, which is much used in Java as a fish-poison. It contains an active acid resin, to which the name of *derrid* has been given. *Derrid* appears to be one of the most powerful fish-poisons known, as one-five-millionth part stupefied goldfish in a few moments, and killed them within half an hour. The physiological action of the principle does not seem to have been studied. Late researches, however, seem to throw some doubt upon the distinctness of *ipoh*-poison from *Upas antiar*.

The natives of Perak, in the Straits Settlements, use an arrow-poison stated to be a combination of watery extracts from the root-bark of three trees, the individual extracts being known as *ipoh aker*, *aker lampong*, and *prual*. *Ipoh aker* and *aker lampong* are believed to be obtained from undescribed species of *Strychnos*; extracts were prepared from the root-bark of these trees by Ralph Stockman and found to be of similar physiological power, each of them having a digitalis-like action and also a well-marked curare-like influence, thus causing arrest of the heart in systole and also loss of power in the motor-nerve endings. *Prua* is said to be the root-bark of *Coptosapelta flavescens*; in the experiments of Stockman it was found to be a very violent poison, rapidly killing the muscle at the point of inoculation, and soon involving in a fatal influence the whole voluntary and involuntary muscular system, so that the animal after a large dose collapsed almost at once with diastolic cardiac arrest.

AFRICAN ARROW-POISONS

THE African arrow-poisons are quite numerous. *Exuja* or *echugin* is a blackish-brown, crumbly, odorless, and intensely bitter arrow-poison, used by the Ovambos of Southwest Africa. It is said to be yielded by an apocynaceous shrub, *Adenium boehmianum*. From it R. Bohm isolated the crystalline glucoside *echugin* ($C_5H_8O_2$), and a resinous body, *echugon*. The glucoside crystallizes in small, colorless, satiny, rhombic plates, easily soluble in water and alcohol and insoluble in ether. It is present to about 10 per cent. in the crude substance, and is said to resemble strophanthin very closely in its physiological properties.

The arrow-poison used by the pygmies of Central Africa, obtained by Surgeon Parke, has been found to contain two active alkaloids, *erythrophloeine* and *strychnine*.

The Sakayes, the Somangs, and the Wakamba tribes in East Africa produce arrow-poisons of which the relations with one another are still obscure. *Hippo*, according to Laborde, causes vomiting in the lower animals, followed by tetanic convulsions and an almost simultaneous arrest of the respiration and cardiac action. *Vakamba*, of Laborde, is probably the same as the *ukambin* which has been studied by H. Paschkis, who found its active principle to be a crystalline body belonging to the digitalis group, and causing in the lower animals elevated blood-pressure, fibrillary contractions of the muscles, and systolic arrest of the heart.

Onobaio is an arrow-poison used by the natives of Obok, on the Gulf of Aden, which occurs in the form of small, hard, resinous, brown balls. MM. Varigny and Langlois found that one-twelfth of a grain was sufficient to kill rabbits and guinea-pigs very quickly. After large doses arrest occurred

of both heart and lungs, but after small doses death occurred by failure of respiration, the heart continuing to beat after the respiratory movements had ceased.

An exceedingly bitter arrow-poison used by the tribes who inhabit the country of Segon in the French Soudan has been examined by Ferré and Busquet, who find that its active principle is a crystalline glucoside which is a very powerful muscle-poison, affecting directly the heart, and producing very rapidly general paralysis, with salivation, exophthalmia, disturbance of respiration and of circulation. The first influence is to increase greatly the arterial pressure. The whole action of the poison is very similar to that of strophanthidin.

The botanical sources of the African arrow-poisons mentioned are unknown, and it is uncertain whether these poisons are or are not distinct from better-known African poisons. It is certain that several species of the genus *Acokanthera* afford several arrow-poisons to the natives of Africa. Of the four principal species *A. schimperi*, Alph., is found abundantly in the high lands of Abyssinia and through a great portion of Eastern Africa; *A. deflersii*, Schwf., which resembles the last-named species closely, but according to Schweinfurth differs in that its flowers are larger, sweet-smelling, and pure white, has been found in the neighborhood of Yemen; *A. ouabaïo* is a native of Somaliland, and *A. venenata* of South Africa.

The Wa Nyika, the Wa Gyriama, and the Wa Kamba tribes of Eastern Africa prepare vegetable arrow-poisons probably from different species of plants, although the names *ouabain*, *wabayo*, and *ouabaïo* seem to have been used by missionaries and others sending the extract to Europe as synonyms. One of these extracts was long since referred to the root *Acokanthera schimperi*, Benth. and Hook., a reference which has

been recently confirmed by an examination of the leaves, flowers, and fruit by Thomas R. Fraser. In 1882, Arnaud obtained from an unidentified species of the genus *Acokanthera* (which he named provisionally *A. ouabaïo*), a crystalline glucoside; and in 1893, Lewin separated from the *Acokanthera deflersii* an amorphous glucoside. The French investigator, Arnaud, assigned to his ouabain the formula $C_{30}H_{46}O_{12}$, and says that when injected into the stomach it is not poisonous, but when taken directly into the blood is most deadly; the one-sixty-fifth of a grain (0.00101 grm.) being sufficient to kill a man, and acting both upon the heart and the respiratory centers. Gley states that this ouabain is a local anesthetic, having ten times the power of cocaine; and in this has been largely corroborated by Sailer, Lewin, and others.

For the glucoside produced by the *Acokanthera schimperi* Fraser proposes the name of *acokantherin*. In his experiments it crystallized from water in the form of colorless, transparent, quadrangular plates; from alcohol in needle-shaped crystals, often grouped in tufts and rosettes; had a melting-point of about 180° C.; was slowly soluble in water or more so in alcohol; and gave to Dobbin the formula of $C_{30}H_{48}O_{13}$. Physiologically Fraser found this glucoside to act very much like strophanthin; it is a muscle-poison which affects directly the heart-muscle, and thereby causes rise of the arterial pressure. Its influence upon the blood-vessels appeared to be very much less than is that of digitalis.

The term *ouabain* (which we believe was first applied by Rochebrune and Arnaud to a glucoside which they separated from an unknown root of North Somaliland) has indeed been used for glucosides which have been obtained from various African poisons and from various species of the genus *Acokanthera*. The formulas given by investi-

gators for these glucosides have been for the most part closely similar, but have varied considerably even for the glucosides obtained from the same species. The difference in the formulas is not, however, important, and the researches of Lewin in 1893 strongly indicate that the glucosides of the North-African species, that is of *A. deflersii*, *A. ouabaïo*, and *A. schimperi*, are identical, but that the glucoside of *A. venenata* is diverse; it differs from the others chemically in not being precipitated by tannic acid, and in not producing with concentrated sulphuric acid a typical green fluorescence. It was found by Lewin, when injected hypodermically, to act with great rapidity in the production of violent dyspnea and great weakness. It is from this species, *A. venenata*, Don., that the Bushmen of South Africa make an arrow-poison by pounding the bark between stones, boiling it with water, then straining and boiling the water again until a jelly is formed, into which the point of the arrow is dipped. It is said that no snake-poison is added, but it is further affirmed that under the name of "Incwadi" the Bushmen also use the bulbous plant *Buphane disticha* in poisoning their arrows.

The Kentucky School of Medicine, of Louisville, Ky., has been having a shake-up. At a recent meeting of the Board of Regents the chairs of Professors Woody and Kelly were declared vacant and they were removed from the faculty, while Drs. Wathen and Cockran took their places. Dr. Wathen was formerly the dean, but was removed to make way for Dr. Woody, but now the friends of the former gentleman are in the ascendant and have asserted their power by restoring Dr. Wathen. It is hoped that these changes will stop the bickerings that have been going on for some time; but the resignation of Dr. Mathews, which has since occurred, indicates that he, at least, has little faith that they can be stopped. Dr. Mathews is the present president of the American Medical Association.

AMONG THE EDITORS

THE PATENT ON ANTITOXIN.

The announcement that Professor Behring has been granted a patent as the inventor of diphtheria antitoxin will be received by the medical profession with feelings of keen disappointment. The profession of this country has always sternly discountenanced any attempt on the part of its members to make scientific achievements opportunities of personal profit. Such discoveries as the medical profession have made have been fully and freely donated to the service of suffering humanity. Professor Behring's claim to be the exclusive inventor of antitoxin not only indicates a spirit of commercialism which does its possessor no credit, but it displays a disposition to assume credit for the labors of others and to make of these an occasion of personal gain which can only indicate a high degree of moral perversity.

It is almost superfluous to point out to any well-informed reader that Behring's claim is as preposterous as it is unjust. The principles upon which immunization to diphtheria was finally achieved were of gradual growth, the outcome of researches by thousands of untiring workers. The foundation of the work was undoubtedly laid by Pasteur in his method of immunizing against chicken cholera and anthrax.

The principle which lies at the foundation of the invention of diphtheria antitoxin, and that which underlies all serum therapeutics, is that the blood of immune animals can be used in the treatment of others. "Behring did not discover this principle, and in its application he was undoubtedly anticipated by the Japanese workers. If to any single man must be ascribed the distinction of being the inventor and discoverer of the beneficent principle of immunization, the honor belongs to the immortal Pasteur.

The manufacture of antitoxin has been carried out for many years in England, France, Switzerland, Italy, Russia, and Japan, and in these countries no one has had the temerity to attempt to control exclusively its manufacture. In this country

it is made by five boards of health and by several manufacturing firms. In this country alone has an attempt been made to monopolize its production, it being admitted that elsewhere the claims of any patentee are inadmissible.

If Professor Behring admits any merit in the work of his predecessors and contemporaries, his claim to be the exclusive inventor of diphtheria antitoxin is in contradiction of all the ethics of a scientist's career. His claim is an offense against common morality. Had Simpson patented chloroform anesthesia, or had Lister patented antiseptic surgery, the world would have had two selfish empirics, and lost two medical heroes. If Behring, by the righteous judgment of mankind, can be adjudged sole and undisputed inventor of antitoxin, he has a place in the Temple of Fame for achieving the most beneficent discovery of modern times. It remains to be seen whether the temptation to be rich will overcome his ambition to be great, and whether for a tinsel crown he will barter a diadem of everlasting renown.—*Medical Age*.

" HEADACHE POWDERS "

An inquest was held recently on the body of a young man who died from the effects of taking two "headache powders." From the analysis of the contents of the stomach it appears that the powders in question were composed of antifebrin, but the exact quantity administered was not ascertained. Antifebrin, like most aniline derivatives, is a drug which should be employed with especial caution. It is official under the name of acetanilide, and its potency is sufficiently indicated by the fact that the maximum dose assigned to it is only 3 grains. There have been many cases of poisoning from the injudicious administration of this remedy, the symptoms produced by it being of the aniline type. The patient usually complains of giddiness, noises in the ears, throbbing in the temples, and a dull, heavy pain in the head. The face becomes livid, the lips are blue, and the pupils are contracted. This is followed by symptoms of collapse, the face and extremities are cyanosed, the skin is covered with cold,

clammy perspiration, the pulse is feeble, and respiration becomes shallow and frequent. There is no specific antidote, and after the administration of a brisk emetic the sufferer should be kept in a strictly recumbent position, and plied vigorously with stimulants. The effects are usually of considerable duration, and in one case the patient was not out of danger for fourteen hours. We are informed that there is a considerable demand for powders of this description, the purchasers being chiefly young women of the sempstress class. Whether the sale of these drugs should be in some way restricted may be an open question, but it is quite clear that some intimation should be given that they are not free from danger, and that they cannot be taken in unlimited quantities with impunity. Many people acquire an unfortunate habit of dosing themselves with remedies of unknown composition, and this death under such sad circumstances may be taken as an indication that the custom is not one which can be indulged in with safety.—*British Medical Journal*.

ACTIONS FOR MALPRACTICE

While there can be no doubt that the individual should be sustained in high right to recover damages from a physician for gross and culpable negligence or incompetence, there are perhaps few injustices to which members of the medical profession are more widely exposed than vexatious actions for malpractice.

It has been reiterated times without number that in nothing so much as in medical practice is the seeming result, so far as the client is concerned, by no means indicative of the amount of skill or attention, or the reverse, which has been brought to bear upon the case. There are cases in which excellent results ensue in spite of professional services lamentably deficient in technical skill; while, on the other hand, failures, from the patient's point of view, often follow the best of work. There are in every case of illness or injury so many individual and ever-varying factors (and these in no two cases exactly alike) entering into the ultimate composite result that gross errors, such as we have referred to, excepted, it is

almost impossible for a physician or a body of physicians, at a late date reviewing merely the results, to say justly whether or no in that particular case a better result could or could not have been attained. And yet suits for malpractice are being ruthlessly and recklessly brought with alarmingly increasing frequency, in spite of the fact that the law has specifically laid down over and over again the principle that a physician is not held to be called upon to attain a given result, but merely to provide the patient with reasonable care and technical skill.

Such suits can be, and probably very often are, brought out of sheer unadulterated malice, vindictiveness, or greed, and there should surely be some protection for the practitioner against them.

But in the meantime there is one means by which the medical profession can do much to help itself—namely, the formation of a medical-defense union, the members of which, on being threatened with any cause of action in relation to their profession, shall be entitled to file on affidavit their statement of the case for consideration by the society; and, should it appear to afford any reasonable kind of a defense, the union should engage to fight it and see the case through. While this course would not abolish the worry or the professional injury accruing from vexatious and unwarranted suits, it would at any rate relieve the practitioner of the pecuniary strain they entail, and would, moreover, afford him the moral support of its known existence, which would probably serve to check the nefarious schemings of those pathogenic bacteria of the body politic, the "shyster" lawyers, to whom by far the larger proportion of such suits owe their origin.—*The New York Medical Journal*.

Remedy for Tapeworm

Dr. Laborde recommends the following (*Cent. f. d. ges. Therapie*, p. 314, 1898):

Srantium lactate	20.0 (5 dr.)
Glycerin.....	30.0 (1 oz.)
Water.....	120 (4 oz.)

S.—A tablespoonful night and morning for five days in succession.

R.

CURRENT TOPICS

THE PRACTICE OF SHAMPOOING

Dr. John V. Shoemaker, in the *Medical Bulletin* (Vol. XX, No. 3), advocates shampooing as a therapeutic measure in certain diseases of the scalp. Dry seborrhea and seborrheic eczema are the two diseases which respond best to this treatment.

Dr. Shoemaker uses in preference a shampoo of tar-soap. U.

ALBUMINURIA IN LIFE-INSURANCE

Dr. Brandreth Symonds (*Amer. Jour. of the Med. Sciences*, April, 1898) says that all albuminuria is regarded as pathological, though the different varieties are clearly recognized. Clinically albuminuria is divided into two classes, temporary and permanent. The temporary cases may be organic and functional. The functional class he divides into several varieties:

1. Cyclical albuminuria, where no albumin can be found in the morning urine, but is generally found in the afternoon.

2. Dietetic albuminuria—caused by certain foods.

3. Muscular albuminuria—after severe exercise.

Then there is the albuminuria of adolescence, of old age (believed to be caused by the irritation of concentrated urine), and that following influenza and ordinary colds. The unfavorableness of the prognosis in all cases is in proportion to the length of time and to the constant existence of the albuminuria, the presence of tube-casts, the persistence of a low specific gravity, the presence of an accentuated aortic second sound, the presence of headache, the age and the weight of the applicant and his temperament. R.

THE RELATION OF THE PHYSICIAN TO THE PATENT-MEDICINE VENDER

According to Dr. D. M. Greer (*Med. Age*, Vol. XVI, No. 9, 1898), there are two classes of patent-medicine venders: First, those who use the druggists as tools, and push their sealed packages upon the market through them; and second, those so-called manufacturing pharmacists and so-called chemical companies who use the physicians for the same purpose, viz., those who advertise through the physicians.

Through the first class the pharmacist has been reduced to a patent-medicine dealer, and the pharmacy turned into a patent-medicine shop; while the physician,

through the efforts and push of the second class, is fast becoming a patent-medicine pedler.

There are some doctors who try almost every medicine they see advertised, or with which they are sampled. Many of them are ready to give testimonials of the wonderful effects, if their patients happen to survive. Some are willing to testify if their names can be printed on circulars and sent broadcast over the country.

Is it not time, the writer asks, that physicians should heed the warning which they have in the condition of the druggist, and be more careful about prescribing some one's tablets or mixtures? Otherwise they will eventually be obliged to buy a large satchel and stock up with much-vaunted "cure-alls" and thereby become patent-medicine pedlers, pure and simple. S.

ON THE ACTION OF BEER-YEAST ON MILK

In the *Annales de l'Inst. Pasteur* (Vol. XI, p. 720) E. Boullanger contributes an interesting discussion on the action of living yeast-cells from beer on the casein of milk. He holds that the phenomena are very complex but analogous in many respects to the action of certain bacteria. In part the casein is broken up and the cells maintain their vitality. The distinction between the actions of the yeast and bacteria on casein is one founded on time-differences rather than any other. Bacteria break up casein in a very short space of time, whereas days or even months are necessary for a similar action on the part of the yeasts. J.

NOTE ON "THORNS" AND A THEORY OF THE CONSTITUTION OF GREY MATTER

A Hill (*Brain*, Vol. XX, p. 13) treats of this subject. "Gemmules," or, if one prefers Cajal's term, "thorns," have been supposed to be dots of naked protoplasm, by means of which the dendrites establish connections with the terminal end-brushes of nerve-fibrils. The author here presents a brief note in which he states that they are universally present, but exist in a variety of forms, four of which he details. He believes them to be structures imperfectly revealed by any of our known methods. The great variation in form leads him to the belief that a "thorn" is really the cell-end of an unstainable nerve-filament surrounded by a film of staining "cell-plasm." The author's brief notes with reference to the nervous mechanism are of interest, in view of Apathy's recent observations respecting the continuity of fibrils and their arrangements. J.

ADDRESSES

RECIPROCAL DUTIES BETWEEN OUR PROFESSION AND THE COMMUNITY*

By SIR T. GRAINGER STEWART

President of the British Medical Association

The respective duties may be described in a single sentence. That of our profession is to do its best to prevent disease, to cure disease, and to alleviate suffering in individual patients to protect the community against preventable maladies; to advance our knowledge; to train our successors, and to guard the portals of admission to our ranks. The duty of the community is to afford us every facility for so doing.

I purpose to speak briefly of each of these, and then refer to the various organizations instituted by the profession and the community with a view to the fulfilment of their respective duties.

It is, to begin with, most desirable that a common understanding should exist as to the present position of the science and art of medicine. The days are passed in which medical men were accustomed to make great claims as to their powers, arrogantly pretending to control processes of nature that we are really unable materially to influence.

Our profession recognizes its limitations; none know so well as we how imperfect our art still is, and how little it can achieve compared with what we would desire. Still we know that medicine has advanced amazingly during the present century, and is advancing every day in all directions at an accelerated and ever accelerating speed.

Goethe puts into the mouth of a well-known personage a humorous description of the powers of our art—a description that has met with wide acceptance.

The spirit of Medicine is easy to be grasped, One studies through the great and little world To let things go in the end as pleases God.

Were Goethe living now, he would be the first to recognize that our studying through the great and little world is proving by no means fruitless. The annual death-rate in England and Scotland has, since 1855, fallen by more than one-fifth. The proportion of deaths from zymotic diseases, as compared with other causes, has diminished by more than one-third; the labors of members of our profession have mainly brought about these results. In the treatment of the maladies of every important organ—the heart, the stomach, the kid-

ney, the liver, the brain—we can accomplish far more by our modern methods than was possible a few years ago. Even the great scourge of humanity, tuberculous disease, has been robbed of some of its terrors. The mortality due to it has fallen by one-third during the past thirty years. The experience of Glasgow has afforded a striking example of more recent improvement, for, comparing the past seven years with the seven immediately preceding, the deaths from pulmonary tuberculosis have diminished nearly one-fifth. And everywhere the life of those stricken by the malady has been remarkably prolonged as compared with former experience; the chances of recovery greatly increased. All this has been accomplished in regard to tuberculous diseases, while as yet but little has been done in the way of spread by infection. Our rapidly advancing knowledge is supplying us day by day with new precautionary measures that are certain further to diminish the frequency of the disease and its rate of mortality. The public takes cognizance of facts like these, and is therefore according year by year a higher measure of respect to our art, imperfect though we must acknowledge it still to be.

There is little need to enlarge upon the personal relationships of doctors and patients. The duties that the practitioner owes are universally recognized. He has to master the art of medicine to the best of his ability and then to apply his knowledge for the benefit of each individual who may come under his care. Four hundred years before the birth of Christ, we find in the oath of Hippocrates the great principles that guide us still. The young physician of that school vowed to do his best for every patient, and "I will follow that system of regimen which, according to my ability and judgment, seems best, and abstain from whatever is deleterious and mischievous." He vowed also that he would never use his art for evil purposes: "I will give no deadly medicine, if asked, nor suggest any such counsel." He vowed, moreover, to lead a high and noble life. "With purity and holiness I will pass my life and practise my art." And he vowed most solemnly to observe the strictest secrecy with regard to all private matters of which his profession might make him cognizant: "Whatever I see and hear in the life of man which ought not to be spoken abroad, I will not divulge, as reckoning that all should be kept sacred." No nobler summary of professional morals could be found than this, and I venture to say that, in our time and in our nation, these duties are well observed.

If we can claim that our part of this duty

*Delivered at the Sixty-sixth Annual Meeting of the British Medical Association, held at Edinburgh, July 26, 27, 28, 29, 1898.

is fairly performed in our country at the present day, it is equally true that the public shows a generous appreciation of the services of their individual doctors. They fully recognize our honest good intent, and if they sometimes evince less gratitude than we know or think we deserve, on the other hand they often accord us more; and if we treat our patients, from the humblest to the highest, with care, courtesy, and discretion, it will be found that, generally speaking, we have not to complain of any want of appreciation and gratitude.

The prevention of disease is in its practical results perhaps the most important of all our duties. It is our chief glory that we have been able to accomplish so much. It is our highest hope that we shall accomplish more.

The great group of diseases that owe their origin to invasion by pathogenic micro-organisms are in course of being rationally explained, and so it is becoming possible for us to take measures for their prevention. In some of them we may hinder their multiplication and spread. In some we can block the channels by which they have been accustomed to find entrance into the body. In some we are able to modify the germ so that it produces, when inoculated, a milder disease, and yet a disease capable of conferring immunity against the malady in its ordinary form. In some we can interfere with the action of the germ, even after it has been introduced, or counteract the poisonous substances that the germs generate.

With regard to the important group of diseases due to faulty chemical processes, we have learned much that is of service for prevention. We have traced the origin of some diseases to the subtle action of chemical substances introduced with the food or in the exercise of various trades and crafts. We have learned not a little regarding toxic substances that are developed within the body from faulty chemical processes, or which accumulate as a result of deficient elimination. And, most recently of all, we have traced important diseases to deficient or excessive supply of what we have come to know as internal secretions. And each discovery that renders the causation of disease more clear contributes something toward its prevention.

Every member of the profession ought to be keeping his eyes open to the advances of science, for in that he may find explanations of morbid action, as Lord Lister did in regard to wounds, always seeking for an explanation of the occurrence of disease, and especially of epidemic outbreaks, for by watchfulness in such matters mighty results

can be achieved, as the work of such men as Snow and Budd and Koch has shown. The public may in many ways benefit from such discoveries and the precautions they suggest. Individual health, family-health, social health, and national health, may all be improved if the individual, the head of the family, the employer of labor, and the legislator, duly study and act upon these lessons. It is their duty to do so. But an intelligent appreciation of these subjects is not easily attained. Perhaps we are ourselves in some measure to blame for this, because our professional customs do not readily lend themselves to the issuing of clear and popular statements by leaders of medical opinion in such form as would enable the public to share our knowledge. We ought to take more pains to instruct the public in such questions. Individual members of the community should seek to understand how their own personal health and that of their families may be protected when they act according to the light of modern science. Employers of labor should modify the conditions of their work, as, indeed, so many of them do, with the view of warding off the special dangers proper to each occupation. Teachers and governors of schools should study zealously all that we are learning with regard to the evils of deficient ventilation, of cramped attitudes, and of excessive or too prolonged mental effort.

In unnumbered ways may intelligent and well-instructed men ward off dangers by attending to the hygienic rules of modern science. But apart from all the private applications of hygienic laws, rises the question of the duty which the Legislature owes to the facts of medicine.

The country has since the Queen's reign become awakened to the benefits that legislation in medical matters may afford, and history will recognize the fact as one of the chief glories of the Victorian age. But I wish that our progress were more satisfactory. Take, for example, the great subject of the prevention of smallpox. With scarcely a dissentient voice the medical profession recognizes the transcendent value of vaccination. A Commission labored for many years, and at last reported unequivocally in favor of that treatment. But with a determination that would be admirable if it were not so disastrous, a comparatively small group of men set themselves to opposing and maligning the process, belittling its advantages and magnifying and multiplying the slight risks that attend it, in the most exaggerated way; and so it comes about that the greatest discovery in practical medicine, although it had its native home in England, is less efficiently carried

out here than in many parts of the Continent. In Germany smallpox has practically disappeared; there has been no death from it in the whole of the vast German army since revaccination was introduced. But what does our Legislature do? The Government has during this session brought in a bill which, although it contains much that is good, is marked by astounding defects. It contains many excellent suggestions, and in particular avails itself of Dr. Copeman's discovery as to the value of glycerinated calf-lymph. It is good that they propose to continue compulsory vaccination of infants; it is good that they propose to extend the period for infant-vaccination; it is good that they are improving the conditions of its administration; it is good that they are to provide calf-lymph instead of human-lymph when it is preferred; it is good that they are taking advantage of the admirable researches of Dr. Copeman, and arranging to supply calf-lymph in its safe glycerinated form; but it is disastrous that they have not ventured upon the enactment of revaccination when general experience is showing us every day the great increase of protection which revaccination affords; it is grievous to think that we lag behind, and are deprived of a benefit which so easily could be obtained. Were the opinion of such a body as the British Medical Association taken in the matter, I have no doubt that revaccination would be speedily enacted, and I venture to say that it would be demanded both at the time that children have entered on school-life and when they enter upon manhood.

I wish that the Legislature would boldly accept the principle that as it is mainly guided by the opinion of lawyers as to legal questions, by those of soldiers in matters military, by practical seamen and engineers in matters concerning their department, so in medical questions they would look for guidance to the medical profession, and give effect to its matured opinion. Then we should have less difficulty about the question of vaccination, or that of the treatment of inebriates, or the prevention of the risks attending certain callings, such as those that expose the workers to lead-poisoning, or to poisoning by phosphorus; and we should soon find the statute-book enriched by further beneficent enactments which would save multitudes of lives and immensely diminish sickness and suffering.

Another duty recognized from the earliest days is that of extending, increasing, and deepening our knowledge. The *mens medica* is an inquiring mind, and the nature of our training and of the problems

which daily confront us stimulate inquiry. Original observation and research is being carried out in unnumbered centers throughout the world. The medieval methods of building systems or theories upon slight or fanciful foundations has been replaced by the Baconian methods. To these the world is indebted for boundless benefits. Every great hospital has been for long used as a field of accurate and painstaking clinical observation, and in many of them, and in every university and school laboratories of research have been established, and original work has been incessant. Here in Edinburgh, in addition to the various laboratories in different departments of the University, the Royal College of Physicians established some years ago its Laboratory of Research, and thereby the profession organized more perfectly than ever before the means for advancing our knowledge. Similar laboratories have since been founded by the London colleges and by other bodies. We may, therefore, claim that the profession is fully alive to its duty in this respect, and is exerting itself to the utmost for its fulfilment. It is much to be desired that the community were more appreciative of the value and importance of such work, that there were less of ignorance regarding the results, and less prejudiced opposition to the methods employed; but in this respect also, as the fruits become apparent, the value of the work is being admitted, and confidence and respect are deepening. It is a good thing to observe how generously individual men of wealth and position are seeking to foster work of this kind. In this University a generous and liberal-minded citizen has, within the past few weeks, provided the whole sum necessary for building and equipping the much-needed new Public-Health Laboratory, and one may venture to hope that the hour may not be far distant when the State will realize that the money of the nation can scarcely be better spent than in making ample provision for the endowment of research.

I cannot speak as fully as I should like upon our duty of training our successors. From the earliest days this has been recognized as one of our most important functions. At first it seems to have been accomplished by transmission from father to son or from master to disciple. Just as one sees in the present day among the Savoyards at Aix-les-Bains the fathers training their sons and the mothers training their daughters in their traditional method of treatment, so the old-world physician handed on his knowledge. By degrees the training became intrusted to individuals

specially set aside for the work, and teaching was gradually organized.

To-day the profession has organized throughout the country many great and famous medical schools, and all the universities devote themselves more or less to medical education. That work, of course, can never be successfully accomplished except where great hospitals exist. The fame of the school of Guy, of St. Bartholomew's, of St. Thomas, has sprung from the splendid hospitals in connection with which they were formed, and the greatness of the Edinburgh school could never have been but for the Royal Infirmary, which among all hospitals stands out so eminently as a training-ground of the profession.

There is no need for me to speak to this audience of what medical education has now become, but I wish that all teachers could manage to make their instruction a training of the powers and mastering of the methods, rather than a loading of the memory with unnecessary facts and transient theories. I wish, also, that it were possible for us, for the universities and schools, to make more complete and satisfactory arrangements for post-graduate instruction, so that old students might return to the *alma mater*, and pick up, in the course of a few weeks, instruction as to new methods and new facts whereby they might keep themselves more abreast of modern progress.

I must not attempt to speak of our duty in respect of guarding the portals so that unworthy practitioners may not be let loose upon the public. Only I would say that I desire to see our examinations always more thorough, practical, and proportionate, so as to be just to candidates and to the public alike.

I wish we had time to consider together the various organizations which have sprung up in the profession, and have been recognized by the State, or which the State has instituted for dealing with matters medical; time would fail me to speak of the origin and the services of the ancients' guilds of surgeons and the royal colleges profoundly interesting as that subject would be; nor can I speak of the growth of the medical faculty, or the universities, or the medical schools which are now scattered so numerous throughout the kingdom, nor of the societies which do so much not only in the great centers of medical education, but in every considerable city, and in every district or country throughout the empire; but I must allow myself time to refer to that Association, in connection with which we are assembled here this evening. Little

more than fifty years ago it took origin as the Provincial Medical Association, and only after a time did it spread to London, and it is forty years this week since they first ventured to cross the border and hold a meeting in Scotland. It now consists of upwards of 17,000 members, all legally qualified practitioners, admitted after careful consideration, and resident in all parts of the empire. In every district the Association is represented by branches, each of which serves important local purposes, and takes its share in determining the policy of the Association. Through its representations to and representatives on the Council I think the Association will do well to foster the vigor of life in the branches. Its *Journal* has a circulation of more than 20,000 weekly, and is recognized as one of the leading medical periodicals of the world.

The objects of the Association are the promotion of medical and allied sciences, and the maintenance of the honor and the interests of the medical profession. These are to be effected by the holding of meetings, the publication of a journal and transactions, the granting of money for the promotion of science, and for defense and promotion or maintenance of the honor or interests of the medical profession by such means and such manner as the Council may think fit, including, in particular, taking or defending legal proceedings, and promoting or opposing bills in Parliament. These objects seem to me worthy of the high and noble traditions of our profession. It is for the discovery and dissemination of truth, and for the maintenance of the rights and influence of the profession as a whole that the Association exists.

It is our duty to inquire how far these purposes are being fulfilled. The mere numerical growth to which I have referred seems to be of itself a proof that a useful end is being served. The value of the *Journal* to the profession cannot be overstated, especially now that such excellent epitomes of recent observation are sent out with each number. I am sure that no member can attend an annual meeting without being enriched in knowledge and being inspired with new ideas. The mere contact with other minds is of inestimable value, and every man who is thinking of doing original work finds fresh light thrown upon his results by those accomplished by kindred intellects.

The Association has for many years devoted considerable sums of money to the endowment of research, and much has been accomplished by its research-scholars and others whom it has helped. It exerts a

considerable influence in connection with public affairs connected with medicine; our Council laboriously considers all questions of medical interest that concern the profession.

As time goes on the Association may often be able to perform like services for the profession and for the country.

Among the institutions which, although suggested by medical men, were instituted by the Legislature, I should mention first the General Medical Council. We have now had forty years' experience of that body, and I for one think that it has done good service to the profession and the State. It has raised the standard of preliminary examinations; it has extended the period of medical studies; it has secured that every medical man shall be educated and qualified in all the branches of the profession, and it has led to the grouping together of colleges in the granting of licenses in a way that has proved eminently beneficial. Its powers have been more limited than might have been desired, and perhaps they might be extended and increased with advantage.

This brings me to speak of the Public-Health Executive, the officials who are entrusted with carrying out the laws relating to disease and its prevention. The formation of the department was—like most British institutions—an evolution rather than a creation; for when the Government felt the need of establishing such a branch of the executive, it did not construct a new board or appoint new officers more than was absolutely necessary, but rather laid additional duties upon boards and officials already existing.

On the other hand, the duties of the Local Government Board naturally included, considering its mode of construction, much that might well have been relegated to other departments, as, for example, many matters relating to poor-law administration.

All this might surely be simplified with much advantage. The department has grown so great and so complicated, and the importance of the work of some of its parts has become so much more appreciated, that it demands reconstruction. I should like to see the Local Government Board entrusted with every question that bears upon public health. It should have two divisions, one dealing with the questions of local administration, and the other with the public health. These two subdivisions would cover the whole work at present undertaken and which properly belongs to this great department.

The President of the Board thus recon-

structed should be recognized as an official of the higher rank, and should indeed be not only a Minister, but a Secretary of State for the department. It would be a great benefit that he should be an officer of such dignity and influence as that he would be able to secure in the Cabinet and in Parliament due attention to the subjects with which he has to deal. He might be a member of either House, but considering the frequency with which financial questions must emerge, it would probably be better that he should sit in the House of Commons. He would, of course, have a Parliamentary and a permanent under-secretary, the former of whom should also, as at present, be a member of the House, who should take his share in the administration of the department, and in the absence of his chief, answer questions, and be available for reference and inquiry in the House on any subject connected with the department. The subdepartment should also be maintained, at which information, advice, and direction upon all sanitary questions might be obtained, while at the same time it continued to organize and carry out scientific investigations somewhat on the lines that are at present followed. There should also be other subdepartments, dealing with various branches of the subject, as, for example, with the registration of births, deaths, and marriages; with the incidents of notifiable diseases, epizootics, and diseases of plants (unless this is sufficiently provided for by the Board of Agriculture), and meteorological and other reports; with the working out of the various Public-Health Acts; with the Vaccination-Acts, the medical questions arising under the Factory-Acts; with the care of the insane; with all questions as to the disposal of the dead, and such like. There are already officials entrusted with nearly all these duties, and in many respects the department is admirably equipped. All that would be required in many instances would be the grouping of them afresh and the clearing up of the precise details as to their work.

Before I close this address, I should like to offer an illustration of what I conceive to be the ideal working out of the mutual duties of a medical officer and of the department to which he stands related.

My friend, Dr. Aitchison, had in the discharge of his duties observed that the inmates in St. Cuthbert's Poor-House were throwing out nitrogenous matter from the system in a proportion far beyond that which they were taking in by way of food. The nitrogenous waste was so great that the paupers might have been described as

in a state of "physiological bankruptcy." In well-fed healthy individuals the store of glycogen within the organism is kept at a level which amply suffices to meet the requirements of the system, and even if on any occasion the daily supply falls short, there is the fat stored within the body, which can easily be drawn upon as occasion requires. But beyond these are the nitrogenous tissues, which are only brought into use when the other two sources of supply are exhausted, and are so used at great expense to the organism. Dr. Aitchison found that our paupers were not fed in such a way as to meet the daily expenditure; that whatever stores of fat they might at one time have had were completely exhausted before they had long been living upon the poor-house fare, and that consequently they were obliged to fall back upon their nitrogenous tissues to the great diminution of their energy and strength. Their output of nitrogen, instead of being a normal of, say 15 to 20 gme., was from 30 to 40 gme. *per diem*. He soon ascertained that this nitrogenous waste went on all the same, whether the food-supply of nitrogenous material was given in proper quantity or deficiently or in excess. And by degrees he satisfied himself that the fault lay in the deficient supply of the fatty materials. He therefore provided for certain paupers an additional allowance of fatty materials in the form of suet-pudding, and found that nitrogenous waste greatly diminished. He then was able to determine the amount of fat required, by noticing when in each case he got the nitrogen-equilibrium established.

These results were presented to the University in the form of a graduation-thesis for the doctor's degree, and Dr. Aitchison received the degree with the highest honors. He then placed the work in the hands of the Local Government Board. The Board, after consideration and conference, sent the diets which he suggested to every poor-house in Scotland. If the authority of the Board over the Parish-Councils be supreme, as it ought to be, this improved diet will be everywhere adopted, and this whole matter will illustrate in an admirable way the efficient discharge of duty on the part of the medical officer and of the authorities under whom he acts and at the same time the conferring of most important benefits upon the inmates of our poor-houses.

But I have reached the utmost limit of my time and must hasten to conclude. With regard to the whole question of the relationships of our profession and the community, I should sum up by saying that what we have to do in order to secure its

perfect fulfilment is to discharge our part conscientiously and to the utmost of our ability. It is not by banding ourselves like a trades-union and crying aloud about our wrongs, real or imaginary, but by the efficient discharge of our own duty that we shall in the end succeed. When each of us does his best for every patient and for the State, not with eye-service as men-pleasers, which we are so often tempted to be, but with a profound appreciation of our grave and sometimes awful responsibilities, we shall win the place in public esteem which will bring to our beloved science and art and to us the recognition to which they and we are entitled.

A QUARTER OF A CENTURY OF MEDICAL PROGRESS*

By THOMAS RICHARD FRASER, M.D.

When this Association last met in Edinburgh the Address in Medicine was delivered by the accomplished and universally beloved physician, Dr. Warburton Begbie, and the thesis that formed the subject of the address was expressed in the inquiry, "Has the practice of medicine made a single step since the time of Hippocrates?"

From his elaborate survey of the history of medicine, he concluded that no general doctrine—chemical, physical, humoral, or physiologic—had been propounded that satisfactorily explained the nature and production of disease; that therapeutic advancement had been obtained chiefly by the observation of patients, by adhesion to the classic method of rational empiricism; and that by this method such valuable accessions to the means of treating disease had been gained as the administration of turpentine in pulmonary gangrene, and bronchitic affections; of quinine in intermittent fever, of potassium iodide in syphilitic periostitis and thoracic aneurism; of potassium bromide in epilepsy; and of cod-liver oil in pulmonary tubercle.

It may not be without interest to consider to-day how far, and in what directions, this great and wide subject of medicine has chiefly advanced since Dr. Begbie delivered his address scarcely a quarter of a century ago. It has, however, been signalized by a great increase of knowledge regarding the fundamental sciences of chemistry, physiology, and morbid anatomy; by the creation of pharmacology as a science of the action of remedies, by steady advance in symptomatology and diagnosis, and above all by so remarkable a development in our con-

* Address in Medicine at the Edinburgh Meeting of the British Medical Association.

ceptions of the nature and production of many diseases, that we appear almost to have attained a position, vainly sought for during centuries by our predecessors, of being able to formulate a doctrine of disease founded upon the satisfactory basis of experimental demonstration, and sufficient to explain many of its forms, and to already provide us with assured means and principles for its prevention and treatment.

While fully acknowledging the merits of the workers in medical science and practice by whom this gratifying progress has been made, it cannot be forgotten that the necessary pioneer work was undertaken amid difficulties of exploration in dark and unknown regions; and that but for this pioneer work the present generation would not have been able to reap so prolific a harvest of medical discovery.

This indebtedness to our predecessors is nowhere more conspicuously shown than in the advancements that have been made in the diagnosis of disease. Observation, careful and intelligent, as practised by the fathers of medicine, had already constructed a nosology sufficient to distinguish the great majority of diseases, and so complete that it is doubtful if much advance could have been made if the methods in use at the commencement of this quarter of a century had alone been trusted to. The introduction, however, of physical aids to our senses and of chemical applications and methods—each rendered possible by the growth of collateral science—has placed us in a position from which we have been able to advance in accuracy of diagnosis, and even in the discovery of new diseases.

By the apparatus now in use for blood-determinations the condition of this fluid in regard to many of its most important constituents can be exactly determined, and information can be obtained valuable for treatment, and previously unattainable by any perfection of intelligent observation by means of the unaided senses. The sphygmograph depicts, with precision of detail, changes in the pulse, which are difficult to apprehend by the unaided finger, even after a long apprenticeship, and above all increases the usefulness of the physician by indicating the characters which, without its use, he should be trained to detect. He is thus enabled to appreciate changes which are not only of the highest value in prognosis, but are also frequently sufficient either in themselves, or aided by the most superficial of further observation, to justify without auscultation the diagnosis of the cardiac lesion which is present. The ophthalmoscope has increased the certainty of

diagnosis of many nervous affections and toxic processes, and some of the difficulties of clinical observation have been overcome by the radiograph, whose capabilities, however, are as yet undeveloped.

By the introduction of chemical processes, applied especially to the examination of the stomach-contents, and of the urinary and other secretions, diagnosis has also been advanced, and previously unknown precision has been obtained. The agglutinating effects of the blood-serum in certain infected diseases, as typhoid, Malta, and relapsing fevers, and in cholera and anthrax, upon their respective pathogenic organisms and the application of chemical pigments to reveal the existence of the microscopically minute organisms of such diseases as pulmonary tubercle, pneumonia, and diphtheria, have removed many of the perplexities of diagnosis and rendered identification almost a mechanical art.

While by this and other means the diagnosis of diseases—a fundamental work in the art of medicine—has conspicuously advanced during the last quarter of a century, this advancement, however great, does not, in itself, justify any claim to a nearer approach to the realization of the highest aims and objects of medicine. Diagnosis, for the most part, deals only with symptoms; it has no concern with the true nature or course of the disease, and until this has been determined, progress in treatment can only be tardy and unsatisfactory. The history of medicine has shown that the advance in these two departments has rarely, if ever, been parallel or equal. The one may reach a position of almost ideal perfection, while the other still remains in the initial stage of vague speculation. This is exemplified by the present state of knowledge of nervous diseases. Minute symptoms have been identified, and have been so arranged in groups as to constitute special disease, and thus numerous forms of disease, associated with morbid lesions of parts of the spinal cord or brain, have been created. The elaboration is a remarkable triumph of painstaking and skillful observation in symptomatology and in morbid anatomy. It presents a field for the training of the powers of observation and reason, probably unsurpassed by any other problems in practical medicine, and the solution of these problems is undoubtedly a cause of satisfaction to the physician, as it frequently also is to the patient.

To what extent, however, is the patient a gainer; to what extent is the object of diagnosis and of all medical knowledge fulfilled? It must be admitted that the gain in most cases is disappointing. The natural course

of the disease is no doubt often beneficially modified, but usually to only a slight extent, unless surgical treatment is successfully applied. Whether the investigation of the condition of the patient leads to the diagnosis of acute ascending paralysis or anterior cornual degeneration, of spastic paraplegia or locomotor ataxia, of syringomyelia, or bulbar paralysis, the methods of treatment are much the same; and while we may have some satisfaction in adopting measures to relieve symptoms, or to protect the patient against conditions favorable to the progress of disease, or to increase the general powers of resistance, we most frequently find ourselves in the mortifying position of being unable to cure the disease. In those cases, on the other hand, in which it is possible to advance from diagnosis to the determination of the actual cause of the disease when remedies are employed which have been proved to be curative as regards that cause, the disease, whatever be its position in the artificial nosology of nerve-affections, may in many instances be arrested in its progress, and may even be cured, provided the affected tissues have not already undergone incurable destruction.

At the present epoch in medicine it is especially interesting to recognize that the latter gratifying results are to be obtained when there is reason to believe that the disease has been caused by a toxic substance present in the body, and that according as this substance be the poison of syphilis, or of rheumatism, or of malaria, is the cure effected by remedies which have been proved capable of annulling the toxic effects of these poisons. It is thereby shown that the disease is not truly a product of the structural alterations which are present, but of a hurtful substance or poison capable, among other effects, of producing these structural alterations. Similar facts are observed with many other poisons and an association highly significant in regard to the production of disease is thus indicated. Many of the more common poisons produce changes in structure closely simulating the changes of disease, as the peripheral neuritis, anterior cornual degeneration, granulo-fatty degeneration, and arterial sclerosis of lead; the liver-steatosis and yellow atrophy of phosphorus, and the fatty degeneration and diffuse sclerotic hyperplasia of the liver, the peripheral neuritis and the atheromatous changes in blood-vessels produced by alcohol.

By such facts, acquisitions of modern pathology, it is strongly suggested that the structural changes found in many diseases may, after all, be mere manifestations, asso-

ciated with other effects, of a cause which would thus assume the importance of being the essence, the *vera causa*, of the disease, and that this essence is a toxic substance. This idea is rapidly becoming the prominent doctrine of the present-day conception of disease, and as investigation proceeds it is almost daily receiving support from new facts. It has been demonstrated that the body is constantly subjected to the risks of poisons produced within itself, as well as of poisons introduced into it from without. Many of the poisons produced in the body, such as the ptomaines and leukomaines, are of the chemical nature of the previously known alkaloids, and not a few of them rival the vegetable alkaloids in toxic power and reproduce their leading effects. Nerve, for instance, is lethal in minute doses, and acts in many respects like pilocarpine; while muscarine finds its analogue in the active principle elaborated by poisonous fungi.

The organism, even in a state of health, is a veritable storehouse of these toxic substances. Many of its normal constituents, such as potash-salts and carbonic acid, are well-recognized poisons; many of the products of its glands, such as saliva and bile, contain toxic ingredients. Many of the substances formed in the processes of dissimulation, and which enter such secretions as the urine and the intestinal canal, are capable of disordering health, and even of endangering life; and in disorders of function, even if they amount to little more than mere disturbance of nutrition, poisons not found in the healthy body are generated, and produce the symptoms of disease. By such toxic influences the symptoms of cholemia, gout, rheumatism, uremia, diabetic coma, stercoremia, and probably also of chorea, sunstroke, neurasthenia, asthma, and the idiopathic anemias, receive a sufficient explanation, even although the toxic substance has not in all cases been identified.

The doctrine of the toxic origin of disease has also been applied to mental affections. Autointoxication from poisons produced in the intestinal canal is believed to be an important factor in the causation of insanity, and already neurologists, such as Nissl and Van Gieson, have expressed the opinion that the toxemic theory is destined to clear away much of the present vagueness regarding the pathogenesis of mental disease. Further, it is not improbable that in carcinoma, autointoxication by a poison generated in the carcinoma-cells, equally with, and in some instances to a greater extent than, structural degenerations of in-

vaded tissues, accounts for the symptoms and for the fatal termination—a probability that has been strengthened by the separation from carcinoma of a substance possessing a hyperthermic and powerfully lethal action.

The widely acting pathogenic influence of poisonous substances has, however, received its most definite and convincing support from the remarkable discoveries in bacteriology which have signalized this period. The gravity and wide prevalence of infective diseases had rendered them a subject of special study from the earliest period. Rhazes, in the seventeenth century, propounded the view that smallpox was essentially a fermentative disease, and thus originated the doctrine of the fermentative nature of all infectious disease. Previous to this time a theory of the parasitic origin of these diseases had been propounded, and its more enthusiastic supporters gave a reality to their views by such statements as that syphilis was caused by a minute worm, and measles, smallpox, and plague by infusorial animals or invisibly minute insects. With the introduction of the compound microscope the parasitic theory disappeared in this gross form of it, and the fermentative theory was again adopted. It was not, however, until 1861, when Pasteur's great discovery of the nature of butyric fermentation was made public, that the sufficiency of this theory became revealed. His demonstration of the essential part played by minute living structures in the transformations that constituted the process of fermentation at length removed the process from the mysteries which had previously surrounded it, and opened up applications to the pathogenesis of infective diseases which have revolutionized medicine. He pointed out that the organisms of fermentation are similar to those that had already been discovered by Rayer and Davaine in anthrax. He subsequently demonstrated the virulent nature of the microbes of pyemia and infected gangrene, and, following Koch's work on the cultivation outside of the body of the bacillus of anthrax, he proved also that this bacillus, as well as that of cholera *de poules*, is able, when grown in suitable media, to reproduce itself almost indefinitely, and to retain for many generations its power to reproduce the symptoms of the original disease when inoculated into animals.

The way was thus opened up for important additions to the knowledge of the etiology of infective diseases, and, in rapid succession, the pathogenic micro-organisms of swine-fever, morve, tubercle, Asiatic chol-

era, septicemia, erysipelas, pneumonia, and numerous other infective diseases were discovered.

The pathogenic action of the microbes was at first attributed either to mechanical obstruction of the blood-vessels, caused by their accumulation in them, which resulted in asphyxia of organs essential to life; or to a biological action which enabled them to appropriate nutritive materials destined for the tissues of the body, and thus to deprive these tissues of life. While, in the case of a few of them, both of these actions may to a slight extent explain their effects, it was subsequently proved that their effects are mainly caused by the poisons which they produce. These poisons are of complex composition; some are alkaloids, and others modified proteids, and others, again, have altogether unknown chemical composition; and many of them are of extreme, and almost indefinitely great, activity. Like other poisons, they also are capable of producing structural changes, exemplified in the focal necrosis of peripheral nerves produced by the diphtheria-poison; the fatty changes and longitudinal fibrillation of the heart-muscle produced by this poison, and also by that of anthrax; the cerebrospinal meningitis produced by the poison of influenza; the anterior cornua- and muscle-degenerations and the neuritis produced by the poisons of tetanus and diphtheria; and by the production of nodules in the lungs, reproducing the characteristics of pulmonary tuberculosis by dead tubercle-bacilli.

The demonstration of the toxic origin of infectious diseases has thus added greatly to the number of diseases which are caused by poisons, and has thereby been largely instrumental in establishing the doctrine of the toxic origin of disease. Unlike the older doctrine of the iatro-chemists, humorists, and physiologists, this doctrine is supported by an abundance of convincing facts; and it may confidently be anticipated that it will have an endurance which former systems of medicine have not possessed.

Large numbers of disease-producing poisons are thus ever present in the body, created by the normal processes of life, and abundantly produced by departures, even in themselves unimportant, from these processes. Many substances well known to have poisonous properties are intentionally introduced into the body, such as alcohol, tobacco, tea, and opium, while others, such as lead, accidentally find their way into it. The respiratory passages and intestinal canal are crowded with microorganisms; they teem in the soil, air, and articles of food; many of them are producers of viru-

lent poisons, and when they effect a lodgment in the body and find conditions congenial to development, they proliferate with so great rapidity that a single bacterium may in twenty-four hours have multiplied itself into many millions of separate toxin-creating organisms.

In these circumstances it is of interest to inquire what defence man and other animals can oppose to the disease- and death-producing poisons by which they are so constantly endangered? Instances have long been known of a possession of defensive powers against the ordinary poisons, organic and inorganic. Certain animals are by hereditary endowment able to receive with impunity large quantities of poisons, which in minute quantities are hurtful to other animals; and this is well exemplified in the enormous quantities of belladonna and opium which may be administered without injury to herbivora.

It is also notorious that man and other animals may become so habituated to the action of several toxic substances that in the course of time doses greatly in excess of the minimum lethal are no longer able to cause death or even much inconvenience. Such acquired powers of defence are produced against arsenic, opium, alcohol, and tobacco, and they are also illustrated in the effects of nitrite ethers.

Explanations for these exceptional powers of defence have been found in the special activity of the processes of elimination, and particularly of elimination by the kidneys, whereby the quantity of poison requisite to cause injury is prevented from being present in the blood; in an unusual power of producing decomposition, probably dependent on special chemical conditions of the blood, by which, for example, herbivorous animals are enabled to convert very large quantities of atropine into relatively inert trophine substances; and on the property which certain organs, and especially the liver, possess of absorbing and retaining toxic substances and of thus preventing their access to the structures on which they act, in quantity sufficient to be hurtful. In the case, further, of many organic poisons absorption and diffusion are impeded by the walls of cells, as in the instance of the slow absorption of strychnin through the stomach-walls, and of many albuminoid poisons through the intestinal epidermis.

These explanations, however, do not account for all the observed phenomena, and it must in the meantime be assumed that tissues may gradually become accustomed, possibly by exhaustion, to the perturba-

tions produced by substances which modify this normal condition, so that by and by a tolerance is induced.

Anticipating some statements that will afterwards be made, a fundamental difference exists between both congenital and acquired defence against ordinary poisons and that resulting from the action of disease-toxins, venous and such-like poisons, in so far that in the former there is not produced in the blood any substance which plays the part of a counter-poison or anti-toxin.

The subject has, however, gained a new importance from the remarkable facts discovered in connection with the poisons produced by pathogenic microorganisms, and in connection also with other poisons of very similar chemical composition, represented especially by the venom of serpents, and by the vegetable products abrin and ricin.

It had long been known that many infectious diseases conferred upon those who had suffered from them a power of resistance against subsequent attacks of the same disease. After the discovery had been made—and to this I have already alluded—of the microbial origin of infective diseases, it was experimentally shown that if the microbes constituting the cause of any infective disease were inoculated into animals, not only were symptoms of the disease produced, but also the animal, if it survived, reproduced still further the events of an infectious illness, by acquiring a power of successfully resisting the morbid influence of the same microbes subsequently inoculated. It has likewise been found that each of these events could be reproduced by the filtered, and therefore microbial-free, solution, in which the pathogenic microbes had been cultivated, and thus it was demonstrated that neither the original disease, nor the subsequently acquired production, was actually due to the microbe, but to toxic substances produced by it.

From this position the further great advance was made that the blood-serum of protected animals, itself destitute of poisonous properties, when introduced into non-protected animals, conferred upon them a resisting power which might be so great that even large lethal doses of the virulent microorganisms and of its toxin no longer produced death, or even symptoms of poisoning.

These remarkable results of experiment deservedly claim much attention. They irrefutably demonstrate that infectious diseases are in their essence poisonings; they throw much light on the mystery, pre-

viously shrouded in metaphysical phrases, of the nature of the protection acquired by attacks of infectious disease or conferred by vaccination; and they have not only at once led to valuable therapeutic results, but they indicate further applications, in both the prevention and the treatment of disease, exceeding in their possibilities any expectations that had previously been originated by discovery in medical science. Inquiry into the nature and cause of this protection has thereby been removed from the position of speculation long occupied by it to one in which experimental methods could be pursued with some hope of solving the problems. Many of the results, however, are yet difficult to explain, and considering that new facts bearing upon them are almost daily being obtained, it is not to be expected that altogether satisfactory solutions had been found or unanimity of opinion obtained. More especially does this apply to the nature of the process whereby protection and immunization is obtained, to the origin of the protection-producing substances or antitoxins, and to the manner in which they act as curative or therapeutic agents. As in the case of some of the ordinary poisons, mineral and vegetable, it may be admitted that a portion of the acquired protection is due to the tolerance brought about by the accustoming of the structures of the body to the action of the poison, but this tolerance could not continue for the long periods during which acquired immunity sometimes persists after the infective disease has been recovered from. It may also be admitted that pathogenic microorganisms absorb and thus remove from the body certain constituents necessary for their growth and vitality, whose removal may, to some slight extent, render the body unsuited for the further growth of these organisms; but, apart from other objections that might be advanced, it is inconceivable that this cause could operate in the bodies of animals that so rapidly change the composition of all their constituent parts, and that therefore the substances which have been removed would not very soon be again restored to the body, and thus render it vulnerable to fresh infections. The doctrine of phagocytosis, enunciated and ably and strenuously supported by Metchnikoff, in which protection is attributed to the power possessed by leucocytes of absorbing and destroying microbes, may, to a limited extent, account for the destruction of living microbes, but it probably accounts to a greater extent for their disappearance after life is extinct; while it can have but little influence upon

the soluble toxins which, since the introduction of the theory of phagocytosis, have been proved to be in most cases the true cause of the disease-symptoms.

The frequent persistence of immunity, not only exemplified in the after-history of patients who have recovered from certain of the infectious diseases, but also in vaccination against smallpox, while it alone serves to disprove each explanation as yet advanced of the essential nature of acquired protection, must be taken into account in formulating explanations. The microorganism of an infective disease introduced into the body produces the characteristic symptoms of the disease, and, if the animal recover, subsequent inoculations of this microorganism no longer produce any injury. The animal has become protected against the disease, and there is abundant clinical evidence to show that in the case of the majority of infectious diseases the immunity lasts for many years. The pathogenic organism of the same disease cultivated outside the body produces a toxin that, when administered to an animal, likewise reproduces the symptoms of the disease, and if the animal recover, and further quantities of the toxin are successively administered, an immunity may be acquired so great that the animal suffers but little inconvenience when fifty times the minimum lethal dose, or even a larger quantity of this toxin, is now administered to it. The immunity acquired in the latter case is, however, only of short duration. I do not know if the duration of it has been defined with any of the toxins of disease, but at least enough has been done to show that it is brief compared with the immunity produced by the microbe from which the toxin had originated.

In the case of the venoms of serpents—which in composition and other important respects are analogous to the toxins of disease—the duration of immunity has, however, been defined; and experiments have shown that if an animal be protected so as to survive the minimum lethal dose of the cobra-venom, the protection produced against the same dose of venom does not last longer than a few hours; and even when the process of immunization has been carried so far that the animal can survive four times the minimum lethal dose, the protection against this dose of venom exists for only thirty days. The protecting substance, antitoxin or antivenene, which appears in the blood after inoculation with pathogenic microbes, or after the injection of toxins or venoms, is chemically unstable, and is subject also to the general processes of elimination. Its presence in the

body, even when the quantity of toxic substance to which it owes its origin is greatly above the quantity of toxin, which has been elaborated in a case of infectious disease by the pathogenic organisms of that disease, is to be measured by days only; and nevertheless the protection produced in a patient by an infectious disease may apparently endure for a lifetime, and the immunity from smallpox gained by vaccination for at least seven years. It appears to be impossible to explain these contrasting facts on any other supposition than that in the instances of prolonged immunity, successive supplies of the antitoxin of the disease, or of smallpox, must be furnished to the body during the time that protection continues. It is not possible, however, that these supplies could emanate from the pathogenic organism itself, for the life of the host would not endure were they retained in the body in their condition of original virulence. Jenner himself believed that vaccinia is modified smallpox. The microbe of smallpox, like all other microbes, is greatly influenced by its surroundings when transferred from man to the calf. It is now known that it may gradually acquire the characteristics of vaccinia, and elaborate substances which reproduce in man the protective effects of inoculation with human vaccine. The microbe of smallpox, therefore, has obviously become so modified that, while it can no longer produce a virulent toxin, it still retains the power of elaborating a protective antitoxin, and also retains sufficient vitality to reproduce its like through many generations in the human body.

Evidence pointing in the same direction has been obtained with other pathogenic microbes. Pasteur found that the microbe of fowl-cholera, when treated in a certain manner, can have its virulence greatly lessened, and if it be then injected into the tissues of fowls, only slight poisoning is produced.

From fowls thus treated, microbes are obtained also, capable of producing only slight poisoning, and inoculations can be carried through a successive series of fowls with a like result. Each of these fowls had, by this inoculation with a weakened or attenuated microbe, become protected against the original and virulent microbe.

In the case of the pathogenic micro-organism of anthrax, this great pioneer in the field of the microbial etiology of disease discovered similar facts. If grown outside of the body at a temperature of 42.5° C. for eight days, this microbe could no longer produce the disease in susceptible animals, but notwithstanding, it en-

dowed them with a certain degree of protection against the original virulent microbe. Similar results were obtained with the microbe of hog-fever, and it is important to note that a duration of immunity exceeding that known to be produced by any toxin was obtained, for the protection following inoculation of the attenuated microbe lasted for at least one year.

These instances are sufficient to show that immunity, equally with poisoning, is dependent upon a soluble substance produced by the microorganisms; that the duration of even a high degree of immunity resulting from the introduction into the body of the immunizing substance, as distinguished from the microbe, is only of brief duration; and accordingly, with the existing evidence, it is impossible to account for the prolonged immunity following upon the recovery from many infective diseases, or from inoculation with vaccine-lymph, otherwise than by assuming that so long as immunity continues the microbial sources of infective disease continue to exist in an attenuated form in the protected body.

Attenuation for the purposes of protection would therefore appear to be essentially a process in which the condition of life of the microbe is so modified that its capacity for manufacturing poisons is weakened or destroyed, while its disease-preventing properties are retained. Unless by education we can so tame and civilize a pathogenic microbe as to subdue its virulent and hostile disposition, while at the same time its beneficial and protective properties are left unimpaired, the hope of obtaining—as for plague, cholera, and tubercle—immunizing vaccines equal in efficiency to the lymph of vaccinia will probably never be realized.

The theory that I have suggested implies that long-enduring protection from infective disease cannot be obtained by the introduction into the body of either the poisonous or immunizing effects of microbes—the toxins or antitoxins—but only by inoculation of such microbes as are capable in the body of assuming a non-virulent form, or of the microbe already converted into this form.

I would here point out that, however highly we may value the objects and success in some important directions of the experiments of Dr. Monckton Copeman and others, on the effects of glycerin upon vaccine-lymph, it must not be overlooked that the powerful microbial action of glycerin upon the contaminating organisms of this lymph may in the course of time weaken or even destroy the activ-

of the specific organism by which the protection against smallpox is produced.

In the case of some diseases it is possible that the modification of the pathogenic power of the microorganism necessary to convert it from a poison-producing to an antidote-producing agent cannot be accomplished in the body. Thus may be explained the failure of certain diseases to protect the body from subsequent attacks of the same disease, well recognized in the instances of pneumonia, influenza, rheumatic fever, and tubercle. On the other hand, the microbes of other diseases may in small numbers, and attenuated both in virulence and in power of conferring protection, persist in the body after convalescence has been established, and actually render it not only more susceptible to fresh infection, but also to a recurrence of the disease by autoinfection. Results obtained by experiments with toxin and venom support the former possibility; for, owing to some as yet unexplained individual peculiarity, an animal which has received a number of successive doses of venom, each considerably below the minimum lethal, instead of having thereby acquired protection, may unexpectedly exhibit serious symptoms of poisoning, and may even die when it receives a dose considerably below that required to produce death in an animal which had not previously received any toxin or venom. The probability of the second event is supported by the well-known effects upon the life and pathogenic power of microbes of changes, even although slight, in the conditions to which they are subjected. A change in temperature, the addition to or removal from the fluid in which they are grown, of a minute quantity of a chemical substance may convert a non-virulent form of a pathogenic organism into a virulent form. Similar causes may, outside the body, also render moderately or intensely virulent a previously non-virulent microbe, and thus may be explained variations in the severity of epidemics, as well as the occurrence of outbreaks of infectious disease not originated by infection from any previously existing case. The dependence of microbial existence upon the composition of nutrient media may also partly account for the age-liability which forms so conspicuous a feature in the history of such infectious diseases as scarlet fever, measles, and whooping-cough.

Further, pathogenic microbes attenuated as to their virulence, but not as to their protective power, may enter the body, and render it immune by a process of accidental vaccination, and thus may be explained,

without recourse to such unsatisfactory phrases as individual or racial peculiarities, well-authenticated examples known to all of us, of repeated exposure to infection without the production of disease, and of the immunity enjoyed by the inhabitants of towns and districts daily subjected to the virus of typhoid fever, malaria, or yellow fever.

These are not mere hypotheses unsupported by experimental data. Describing the results of his experiments on anthrax, Pasteur states that when fowls are inoculated with the virulent microbes of this disease, they remain well until they have been cooled down to a subnormal temperature, and in the earlier stages of the poisoning thus induced, if the temperature be again raised, the symptoms of anthrax disappear and the fowls recover. Anthrax-microbes, as well as those of fowl-cholera, if cultivated at a temperature between 42° and 40° C., acquire varied degrees of lethality, according to the age of the culture, and the microbes of each variety of lethality can be almost indefinitely reproduced by maintaining certain conditions of cultivation. If microbes so grown as to be no longer able to produce anthrax in rabbits are first inoculated in a successive series of experiments in young, and for that reason, extremely susceptible, rabbits, and if the microbes obtained from the last of the series are then inoculated into somewhat older and, finally into adult, rabbits, the original virulence of the microbe is found to have been regained. "The work in my laboratories," he states, "has established that pathogenic microbes are not morbid entities. They can assume various forms of physiological activity, depending on the media in which they live and multiply. As a consequence, one can modify their virulence. It can be exalted or enfeebled, and each state can be fixed." Impressed by the far-reaching possibilities suggested by these and other fruits of his fertile imagination, it is not astonishing that the great enchanter whose divining rod of science had thrown a clear light on the mysteries of centuries, should exclaim: "The hour has now arrived when we may enter the enchanted grotto full of priceless treasures."

Against Gall-Stones

Dr. Blum recommends (*Cent. f. d. ges. Therapie*, p. 442, 1898):

Sodium Oleate.....C.P. 25.0 (6¼ dr.)
Glycerin
Siliceous Earth (Kaolin)

aa q.s. ut ft. pil No. 100
S. Four pills morning and night. During an attack double the quantity may be taken.

**THE PRESENT POSITION OF SURGERY: I. ITS
SCIENTIFIC ASPECT. II. ITS PRACTICAL
ASPECT. III. ITS MORAL ASPECT***

By MR. THOMAS ANNANDALE

It must at the outset be acknowledged—and acknowledged with gratitude—that the marvelous advances in connection with present surgical practice are largely indebted to those who have diligently, honestly, and successfully carried on experimental and other research in connection with the sciences of chemistry, physiology, bacteriology, anatomy, and pathology. We, as surgeons, look forward hopefully to receive the continued aid of these gentlemen in still further promoting our art, and it should be our duty to encourage and assist in every possible way all such scientific work, work that in connection with surgery can only be considered to be in its early infancy, and will require much care, accuracy, and close industry to establish its steady and sure growth.

I would now refer to some of this scientific work that has so benefited surgical practice. To speak of the antiseptic system at the present time is to speak almost of ancient history, but two reasons prompt me to refer to it: First, because it was in the Edinburgh school that its distinguished author carried on those carefully conducted and original researches and experiments which led him to suggest this great principle. Secondly, because I have lived long enough to have had experience of three epochs in connection with surgical wounds. As a young apprentice more than forty years ago I witnessed the dressing of wounds by the application of layers of ointment, the edges being brought together by sutures of thick silk and the arteries secured by ligatures of the same material, the ends of the ligatures being left hanging out of the wound and acting much like setons. As a dresser under the great Syme I learnt the simpler methods of water-dressings and of dry dressings, and lastly as a pupil and colleague of Lister I had the good fortune to follow the various stages of the development of the antiseptic treatment. In the first of these epochs I gained a large experience in connection with septic suppuration, hospital-gangrene, pyemia, and septicemia, all of which conditions were common and frequently led to fatal results. In the second epoch my experience of septic suppuration, pyemia, and septicemia was small in comparison, but still too common. In my third and present

epoch such experience has been reduced to a minimum.

In the early stages of the antiseptic suggestions, failures undoubtedly occurred, but such failures when honestly investigated were important as lessons, and the consideration of their causes did much to establish on a successful basis the great principle. There were some who, ignoring the principle of the antiseptic treatment, and also ignoring the established principles of surgery, preached and practised that the mere application of carbolic acid or other antiseptic lotion was all that was required, and when such treatment was unsuccessful condemned the whole system.

Let me quote a sentence from an address that I gave when appointed Professor of Clinical Surgery in this University, now twenty-one years ago: "It is not the mere application of carbolic acid in one form or another which constitutes the antiseptic treatment, but the true antiseptic surgery is that which is the result of many years' patient, thoughtful, and scientific research; of vast, laborious, and expensive experiments, and of much and valuable time spent in clinical observation on the part of Mr. Lister."

I confess that I was one of those who, while carefully watching the progress of Lister's work, and thoroughly believing and highly admiring his great scientific abilities, were at first cautious in accepting all the details of its practical application, because I felt that these were somewhat complicated; and it was certainly a great relief to my mind and to the minds of many others I am sure, when it was found that in actual practice many of these details could with safety to the principle be much modified and simplified; and further, I had learnt from experience that even with the use of antiseptic treatment the ordinary principles of rest, avoiding causes of irritation, and attention to the general health must not be ignored. I know that no one rejoiced more than Lister himself when it was proved that his great system could be successfully simplified, and so used under circumstances which formerly made it difficult or impossible to carry out.

But while the external application of antiseptic means and precautions is now thoroughly established upon a simple, and at the same time efficient, basis, it must not be forgotten that injurious organisms enter the body and tissues by other channels than through external wounds or breaches of surface; and therefore it is that the science of bacteriology becomes so important a study in connection with disease, and with

* Address in Surgery at the Edinburgh Meeting of the British Medical Association.

the results of injuries and surgical procedures. It is to a further study and knowledge of this science—which must be considered as still in its infancy—that surgery, as well as medicine, looks for more light in connection with the causation and treatment of diseased conditions.

Although experimental and pathological research and clinical observation have already done something to explain and determine the action of certain organisms, the particular manner in which these organisms cause in one case no result, and in others injurious results, cannot be considered as proved. We certainly have learned certain facts: first, that organisms of various kinds gain entrance into the tissues or organs of the body; secondly, that some special condition of these tissues and organs favors their development and multiplication. Such organisms vary much in form, source of origin, situation where chiefly met with, conditions under which they develop or are destroyed, and the special effects which they produce. In the majority of instances the bad effects are produced not so much by the multiplication of the organisms themselves as by poisons or toxins caused by their presence or behavior in connection with the tissues. Further, it would appear that the resulting toxin may not itself produce the poison, but give rise to chemical changes and products which are the real cause of the injurious results. It is also an interesting fact that the presence of more than one form of bacillus may either increase or destroy these injurious results.

The character of the tissues or soil in which the organisms settle has much to do with the results caused. Individualism, age, constitution, general condition of the patient, and any local condition, more particularly any condition which interferes with the vitality of the tissues, influence much the action of organisms. The resistance of the tissues to the injurious effects of organisms depends upon the condition of these tissues, upon the activity of the organisms, and upon the amount and virulence of the toxins developed. It appears that it is the spores of organisms that most resist destruction, and as these spores may germinate not only in the tissues, but outside the body, they act as a serious source of infection.

From the facts I have just stated it will be judged what difficulties arise in connection with the study of bacteriology, and consequently with the treatment of the injurious results produced by the numerous organisms which invade and affect the human

body. Bacteriologic experiments upon the lower animals may in some instances aid us, but the conditions of the lower animals are not always the same as those of human beings, and therefore results obtained in the former are not always safe guides as regards results in the latter.

Continued careful study of anatomy and pathology and accurate clinical observation should do something to increase our knowledge, but I venture to think that much of our future trust for light must be in connection with physiologic chemistry, which we hope may be able to teach us more of the origin, causation, and behavior of the various toxins, and of the action of the tissues in connection with them, so that we may be able to counteract their injurious effects by appropriate treatment.

At the present time we endeavor to treat the general effect of these toxins either by the administration of remedies supposed to produce a general antiseptic effect—but it cannot be said that such treatment has proved satisfactory except in a limited number of cases—or by the introduction into the tissues by subcutaneous injection of so-called antitoxins. This latter treatment has met with an encouraging amount of success, especially in certain directions; but its position is still uncertain, and much further experience is required to place it on a safe and reliable foundation. All who have employed the antitoxins in connection with surgical conditions must have encountered this uncertainty as to their action. My own experience is that, though some severe cases of septicemia have recovered after the injection of an antitoxin, other cases very similar have recovered without any antitoxin being used.

I would suggest that another important subject for further study is the physiologic action or connection between one tissue or one organ and another. May not further experience help us in carrying out treatment based upon this connection? Take, for instance, the suggestion of Beatson for removing the ovaries in carcinoma of the female breast, incurable by other means. Having thought it my duty to test this suggestion, I carried it out in three typical cases, and my experience and the experience of others who have tried this procedure has been that, though the disease was not cured, the removal of the ovaries had certainly some influence upon the diseased local condition.

I venture also to suggest that as a possible and further addition to treatment some more careful work should be devoted to the

action of drugs upon the toxins, such drugs being introduced either by the mouth, by subcutaneous or intravenous injection or by inhalation. We know that large quantities of saline fluid may be injected into the veins with safety, and it is therefore not unreasonable to suppose that other solutions of a non-irritating and antiseptic nature may be similarly employed.

The remarkable results obtained with thyroid extract should be an encouragement to us in this respect, and it has already been proved that certain vegetable products act as powerful antitoxins. If it can be discovered that certain drugs can be safely and successfully used as antitoxins it will much simplify our treatment, for such remedies would be more easily and more certainly handled than the antitoxins now in use.

The treatment of sarcoma or other new-growths by means of toxins is another subject of great interest to the surgeon. The results obtained by Coley and others with the mixed toxins of streptococcus and prodigiosus do show some hopes, for under the use of these toxins growths have undoubtedly disappeared, but I think that all who practise surgery will agree with me when I say that sarcomas and other growths do occasionally undergo a check in their development, and even disappear without any apparent cause. In all probability these occasional occurrences are the result of some physiological or bacteriological action which is not perceptible.

Reference to the scientific aspect of surgery would not be complete without some notice of the "new photography." Ordinary photography has always been of great assistance to surgeons, and will continue to be so for the illustration, progress, and record of many of their cases, but its new and latest development has already proved to be of the greatest service in diagnosis, and consequently in connection with successful treatment, and an improved development of it will no doubt add still more to the success of surgical practice. The scope of this department of science is a very wide one, and by its means we may add much to our knowledge of osseous development and growth, of the relation and position of internal organs, and of the actual condition of diseased parts. In connection with many surgical conditions, and especially in connection with injuries of various kinds, this photography is invaluable.

In leaving this, the scientific portion of my address, I desire again to express the indebtedness of practical surgeons to those discoverers and workers in science who

have by their honest and accurate observation obtained results which have done so much to improve our practice, and to render our treatment more successful.

THE PRACTICAL ASPECT

The advances in our scientific knowledge, combined with extended and more accurate clinical observation, have, as has already been stated, assisted much in the improvement of practical surgery, and the development of what I would designate honest specialism must also be looked upon as adding to our practical resources and treatment.

If asked to define any special characteristic which will apply to the practice of surgery at the present day, I would be inclined to say simplicity—antisepticity, of course, being granted—a simplicity in which are included operative procedure, instrumental assistance, and after-treatment. It is true that from time to time new procedures and new instruments are suggested, but as a rule it will be found that if practical surgeons adopt and employ them they are in the direction of continued simplicity with some addition to their efficiency.

In a general address such as this a reference to all the improvements which have taken place, and are taking place, is quite unnecessary, as such improvements must be well known, or should be known, to all who desire to carry on with success the active practice of surgery.

For such knowledge we have not only our own experience to aid us, but we have to thank the medical press and the many distinguished authors who by their books and papers bring the results of their own experience and observations and researches under the notice of the profession.

Although so many and so great changes have taken place as a result of the advances in the departments of science already referred to, it would be very wrong to ignore the work of those surgeons who are no longer with us. Many of these surgeons showed a knowledge and wisdom and forethought of conditions and procedures which have stood the test of time, and still remain sound and correct as monuments of their genius. This knowledge was principally the result of shrewd and careful clinical observation and reasoning, for they had little or no scientific aids to help them, and their success under such circumstances should be an example to all of us to make every use of our clinical opportunities and to observe closely, carefully, and honestly.

But the practice of surgery has not only reached a high standard of improvement; it has much widened its area both as regards

the number of its procedures and the number of those who practise them. This is scarcely the time or place to discuss the exact relationship between surgery proper and what is called gynecology. Of late years these departments have been gradually merged into one another, so that the line of demarcation between them is scarcely apparent. Both are really surgical procedures, and both require for their proper and successful performance that training and those qualities which make the good surgeon. That physicians under the designation of gynecologists should now become operating surgeons is perhaps only a little return for the fact that surgeons have so extensively and successfully invaded the province of physicians, and as time goes on some balance may perhaps be arrived at which, while guarding the interests of the public, will satisfy the representatives of medicine and surgery.

In this greatly improved era of practical surgery it is well perhaps to suggest a caution, for there is undoubtedly a tendency—and more especially in the case of some of our younger colleagues—to be too ready to resort to surgical procedures. When greater risk was attached to operative procedures, surgeons young and old had, for the sake of their patients and their own reputations, to take into account these risks, even in comparatively slight operations; but now that so little risk attends operations, they may be undertaken without due consideration of all the circumstances or necessities of the case. I would, as a senior colleague, venture to remind my younger friends that nature, with perhaps some little non-operative treatment, will do much, and that no operative procedure should be suggested or practised until the case has been thoroughly studied and found to be unrelievable by other means.

As a practical surgeon in this, the Edinburgh School of Medicine, it may be expected that I should refer to my experience of anesthetics, and I accordingly express the opinion that chloroform holds the field as the best general anesthetic in connection with surgical procedures; and although I have met with a few fatal results from its administration, I have most thorough confidence in its safety if carefully used and its effects diligently watched. Perhaps the best test of my confidence is the fact that having a few years ago suffered from a poisoned finger, received when operating, I was required to take an anesthetic on several occasions, in order to have deep incisions made for the relief of extensive suppuration. The anesthetic I took was

chloroform, and it was administered according to the "open" method by one of my assistants and not by any special anesthetist.

It is my opinion that fatal results will occasionally take place in connection with all anesthetics, and that these fatal cases may be divided into (1) avoidable, (2) unavoidable. The avoidable ones are those which are due to careless administration, or to neglect of means to prevent blood or other matters entering the air-passages, and should not occur if proper care is exercised. To avoid these risks it is essential that one person should give sole attention to the anesthetic and watch both respiration and pulse, more especially the respiration and its nature, during the whole period of its administration. I need scarcely say that the preparation of the patient before the anesthetic is employed, is, when possible, important. I prefer to give a small basin of plain soup about two hours before the chloroform is administered, and if the patient is feeble, or the operation likely to be attended with much shock, a tablespoonful or more of brandy or whisky a quarter of an hour before the anesthetic. In cases in which there is a risk of matters, and especially of blood, passing into the air-passages, the dependent position of the patient's head, as advocated by me in 1879, will often prevent this accident, and, should it take place, immediate tracheotomy must be resorted to if the symptoms are serious.

The unavoidable cases are, in my opinion, the result of heart-failure from fatty or other conditions, and occasionally I believe they may be caused by cerebral conditions, as I have seen a fatal case in which the symptoms resembled most an epileptic seizure. Further, I believe that in the majority of these unavoidable cases it is impossible by any external examination prior to giving the anesthetic to discover the condition which has led to the fatal result. I am inclined to think that the avoidable accidents are more frequent than the unavoidable, and if so it teaches us how important it is to avoid, by careful preparation and administration, anything likely to bring about an unfavorable result.

I would like here to give a word of warning as to the use of cocaine in local anesthesia, and more particularly when it is used by subcutaneous injection. My experience is that some individuals are especially susceptible to its action, and therefore, if too strong a solution or too large an amount of a weaker one is injected, the result may be faintness and serious interference with heart-action. It should there-

fore be used cautiously, and a stimulant be given, or be at hand in case of such symptoms occurring.

Not wishing to weary you, I close my remarks under this head by referring to the importance of taking carefully into consideration everything likely to influence the performance or result of any surgical procedure, and when possible to first remove by proper treatment conditions likely to interfere with or to retard the recovery of the patient. It is not age or apparent feebleness which is likely to cause anxiety, but it is the condition of the organs and the tissues which should guide the surgeon, for if these be in a weak or in a diseased state they are more likely to become the soil for injurious bacteriological development and action.

THE MORAL ASPECT

I make no apology for offering a few remarks under this head, with the explanation that I employ the term "moral" in its highest and widest sense, for I am decidedly of opinion that it becomes every member of our profession who has the true sense of relieving suffering humanity at heart, and who desires to maintain the honor and reputation of his profession, to speak out with no uncertain meaning in regard to every action which is dishonest or dishonorable or tends to be so. The actions and practices of so-called quacks or unqualified individuals are much to be deplored, and it is in every way desirable that legalized checks should be established so as to prevent or limit them, and more particularly in the case of the ignorant and uneducated public. If the educated public consult such practitioners—and it is not very uncommon for them to do so—they can only blame themselves should unfortunate results take place.

It is, however, of practices inside the profession of which I wish to speak. It is sincerely to be regretted that in some quarters the true, honest, and high feeling which should be the standard principles of the members of our profession is in the present day partially or wholly ignored, and in consequence our profession is not always respected as it should be and its members are looked upon by some as mere humbugs, in some cases not without reason, thinking more of fees and fee-accumulations than of their patients' cure or relief. Three causes seem to me to influence this much-to-be-lamented evil which has insidiously invaded our profession—(1) active competition; (2) untrained specialism; (3) society-demands.

There can be no doubt that the number

of medical practitioners has increased, but in connection with the increase of the population this increase in numbers is not so great as is generally supposed. A few years ago I collected statistics in connection with this question, and taking some of the largest provincial towns in England and Scotland, I found that the number of medical men, as compared with the population, was very little changed from what it had been twenty years before. The active competition, therefore, is in my opinion not so much due to the increase of medical men as to the fact that in many instances the most of the remunerative work is done by a few, which leaves much hard work and poor pay for the remainder of the profession.

My suggestions for the cure of this are, that those who constitute the few should be specially careful to guard and encourage the interests of the many; should not seek to secure every remunerative appointment within their reach, but should at least leave some crumbs for their less fortunate brethren.

The second cause is untrained specialism. I have already stated that honest specialism has aided much the practice of surgery, and by honest I mean such practice as is founded upon a thorough knowledge of all the different departments of the profession, and upon an honest study of all the circumstances connected with the various conditions which affect the organ or organs which are specialized.

Specialism in the hands of qualified members of the profession, unless practised under these conditions, is simply quackery, and quackery of the worst kind, for it is carried on by those whom the public understand to be properly educated as regards their profession. There are few who endeavor to practise their profession with integrity who have not met with cases in which mere symptoms have been treated by operation or otherwise, the real source of the diseased condition having been entirely ignored, either through ignorance or for reasons which can only be classed as contemptible and degrading to the profession.

The cure for such practises is not easy, and it can only be hoped that the honest members of the profession will note such practices, and endeavor to check them by exposing their real nature, and by endeavoring with tact to educate the public mind to avoid those who practise them as unsafe and possibly dangerous advisers.

The third cause is society-demands. A section of the public, or I should rather say a section of what is termed "society," has

done much to interfere with the proper feeling that should exist in our profession.

Men, women, and even young people, read and discuss professional matters and diseases; books are published and advertised which are written more to catch the eye of the public than to advance the knowledge or reputation of the profession; a certain class of newspapers and periodicals devote one or more columns to professional subjects, and even give gratuitous advice in the form of questions and answers.

The manners, qualifications and doings of members of the profession are freely criticised at afternoon teas and other entertainments. One man is condemned, and some supposed failures in treatment are magnified or invented, while another receives extravagant praise, and many of his wonderful surgical or other procedures are lauded, and not infrequently described with marvelous details added. One is glad to think that in the majority of instances the surgeon or specialist has no act or part in such proceedings; and having, with justice, confidence in his abilities and upright conduct, much regrets that they should exist and does all he can to prevent their occurrence.

But there are some, I fear, who take advantage of such extravagant popularity, and, having become the fashion, trade upon it in a manner which is not consistent with the high feelings which should influence all our professional relationships. It is fortunate that there still exists among the public in all classes of society many who are endowed with nature's nobility and good feelings and who are not influenced by the extravagant or false opinions of fashion, but who have both respect and esteem for those members of the medical profession who conscientiously devote themselves to the relief of suffering.

We can all hope, but I fear hope in vain, that those members of society who lead a frivolous, useless, and sometimes unholy life may some day realize that they are not acting as true citizens of their country or taking any proper interest in the welfare of their countrymen and countrywomen.

If some of their energies, some of their time, some of their sympathy, and some of their money were employed to assist their fellow creatures, they would themselves reap reward by feeling that their lives were not altogether a selfish existence.

If any member of our profession encourages or takes part in society's ignoble life or actions, he is not worthy to belong to the profession, and he certainly does not add to its reputation.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
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Action of the X-rays on the Vitality and Virulence of Cultures of Koch's Bacillus

Drs. Bergoniner and Gerze (*Gaceta. Med. Cat.*, Tomo XXI, No. 6, 1898) have carried on investigations with cultures in glycerine gelatine. First they determined the action of those rays on the virulence of the cultures, and second on their vitality.

The cultures were exposed to the X-rays with the utmost care. They were made to penetrate through the mouth of the tube which was occluded by a cotton tampon and thus fell directly upon the inoculated surface; the X-rays were never permitted to gain access to the culture through the glass sides of the tube.

The writers inoculated a guinea-pig, as a control-experiment, with a pure culture, and two with a culture which had been exposed to the X-rays for one hour and had given a good radiograph of the hand with five- or six-minute exposure. Of these three guinea-pigs the first died of tuberculosis on July 1; of the other two, one died on July 7; the other still lived on July 22, but was tuberculous.

To examine the action of the X-rays on the vitality of Koch's bacillus they made daily inoculation in glycerine gelatine, exposing them then to the X-rays. Although some of the tubes were exposed for one hour to the X-rays during 15 days, nevertheless colonies developed, presenting very lively bacilli. This shows that the X-rays, although attenuating the virulence of the culture, retard the proliferation of the bacilli.

The Contagiousness of Alopecia Areata

As is well known, most French authors consider alopecia areata a contagious affection, while in Germany it is generally considered a nervous affection. At a meeting of the Berlin Medical Society, Blaschko (*Berlin klin. Woch.*, No. 5, 1898, p. 108) presented a case which speaks almost conclusively for the correctness of the French view. The patient presented was a school-boy, one of eight belonging to the same school, who were within a short time attacked with alopecia areata of various extent. The boys were close playmates and

lived near one another. The objection which may be raised by some that perhaps it was not alopecia areata, but herpes tonsurans, or seborrheal eczema, with consequent alopecia, the author meets by showing that the cases were all as typical cases of alopecia areata as one can see.

Kober (*Berlin klin. Woch.*, No. 15, 1898, p. 343) reports another epidemic similar to the above. Eight boys, all between the ages of 12 and 13, belonging to the same gymnasium—six in one class and two in another—were within a very short time attacked with a most typical alopecia areata: The hair fell out, while the skin remained perfectly smooth without the formation of any crusts or scabs. It is remarkable that all the six pupils were sitting near one another on the same bench. The two pupils from the other class probably became infected during the common singing, drawing or gymnastic lessons. The author says that this epidemic proves the contagiousness of alopecia areata beyond any question. R.

The Use of Chloroform in Rooms Illuminated by Gas

Dr. Love in an editorial in the *Medical Mirror* (Vol. IX, No. 5) says that those of us who believe in chloroform in labor "have often, when engaged in our work at night in a room lighted by gas, been seriously distressed by a spasmodic cough. At least Dr. Love has to such a degree as almost to preclude such work on his part at night, leading him to believe that possibly he might be afflicted with some special idiosyncrasy. He suffered for years before finding it was invariably when using chloroform at night and in gas-lighted rooms; he did not appreciate that his discomforts were due to chlorinated vapors developed by the union of chloroform with the carbon thrown off by the consumed gas. U.

A Case of Anthrax

Dr. Nammack (*N. Y. Med. Jour.*, Vol. LXVI, p. 78) reports a case of a fruit-handler who felt a prickling sensation in the right eyebrow and upper lid followed the next day by swelling. Two physicians previously consulted and the writer himself considered it a case of ordinary phlegmonous cellulitis and prescribed lotions. On the fifth day after the beginning of the trouble the doctor was sent for, being informed that a black pimple had formed during the night, which had broken and discharged bloody fluid. The patient was immediately visited at his home, and found to be in high fever (104.8°), with delirium, feeble pulse, and sweating. The

local edema had extended until it now entirely covered both orbital and frontal regions, simulating the deformity of the fetal face in brow-presentations. The characteristic papule, with its black central crust surrounded by spreading vesicles and extensive brawny edema, was there, and it was evident that the dreaded malignant pustule would soon end his life unless prompt measures were adopted. He was accordingly conveyed at once to Gouverneur Hospital, and the visiting physician promptly excised the area surrounding the charbon, cauterized all the raw edges with the platinum cautery, swabbed out with pure carbolic acid, and then inoculated with cultures of the *Bacillus pyocyaneus*. Free incisions were made into the eyelid, and these incisions similarly treated. Local anesthesia by cocaine was secured before operating. Renewals of the carbolized dressings were ordered every two hours, and the liberal administration of milk, whisky, and strychnine. The next day the patient's temperature was 101°, and the delirium much less marked. His subsequent recovery was uneventful. Cultures made from the tissues gave a moderate number of colonies of anthrax bacilli and a large number of cocci—probably *Staphylococcus pyogenes aureus*. The anthrax bacilli proved virulent. A mouse died in thirty-six hours after injection of one loopful under the skin.

The interesting features of this case are two—viz., the first, the length of time after the reception of the poison before the development of the characteristic malignant pustule; second, the successful treatment after the development of profound constitutional symptoms.

The Examination of Urine for Tubercle Bacilli, and Its Diagnostic Value

In examining the urine for tubercle bacilli R. T. Williamson (*Med. Chronicle*, Vol. VIII, No. 4, p. 247) has been surprised to find how often the diagnosis of tuberculosis has been definitely settled in the affirmative. The point is made that whenever pus is present in the urine, and there is doubt as to the cause thereof, the urinary deposit ought to be carefully examined for tubercle bacilli. Furthermore, attention is drawn to the fact that the examination of the urine for tubercle bacilli may sometimes enable one to diagnose tubercular disease, even when pus, blood, and albumin are absent, and when there are no subjective symptoms of urinary affections. In tubercular disease of the kidneys sometimes small masses of caseous material are found in the urine, which appears as if it contained small crumbs of bread, or irregular small

fragments of cheese, derived from the breaking down of tubercular masses in the kidney. In an abstract of the notes of an instructive case reported, it is clearly shown that though the urine may be free from pus, blood, and albumin, and though subjective symptoms of urinary disease may be wanting, small caseous fragments can sometimes be detected in the urine; on examination of these, numerous tubercle bacilli may be found and a diagnosis of tuberculosis made.

Whenever the question of operative treatment has to be considered, all doubt may be solved by the examination of urine withdrawn by the catheter, since this proceeding eliminates the risk of contamination with smegma bacilli. L.

Urticaria with Recurrent Hematemesis

Dr. T. Hillier Chittenden (*Brit. Jour. of Derm.*, May, 1898) publishes an article with the above title. The patient was a female about 33, unmarried, who consulted the doctor in June last. She gave no history of any previous ill health. There was no family history of gout, asthma, or hemophilia. In April, 1897, the ordinary wheals of urticaria appeared over the body, especially on the back, thighs, back of hands and face, usually coming out at night and subsiding towards morning. These attacks continued until June, when the symptoms increased in severity, the tongue and lips becoming very swollen; there was sore throat with marked dysphagia and difficulty in breathing, lasting three or four hours; the mucous membrane of the nose also became much swollen and congested, and there were frequent and alarming attacks of fainting. There was no pyrexia. These attacks lasted usually about a week, and after a few days there was a cessation. Symptoms recurred early in August, when she was seized one morning with great nausea, and vomited up large quantities of blood and coffee-ground fluid; immediately after she felt better, and the urticaria disappeared in a day or two. The trouble reappeared in February last, although in a much milder form; there is no hematemesis, but melena is present, showing the same conditions of local hyperemia and capillary rupture either in the stomach or small intestine, probably the latter.

In this as in the few other recorded cases of recurrent hematemesis the extreme difficulty of entirely excluding the possibility of gastric ulcer somewhat obscures their pathology, as in all of them there has been a certain amount of dyspepsia. Dr. Pringle, in the *Clinical Society Transactions*, Vol. 18, 1885, gave a most interesting and lucid

account of a somewhat similar case, in which he came to the conclusion that the cause of hematemesis was the result of "hemorrhage from the stomach due to capillary rupture occurring when the mucous membrane of that organ was in a state analogous to the urticarial condition of the skin." What gives rise to this periodic blood-disturbance? That it is due to some toxin circulating in the blood there can be no doubt, but the nature or origin of that toxin is not known. That it must be auto-genetic, and not taken in from without, seems most probable, for it appears to make no difference when the strictest rules of diet are rigidly adhered to. It has been suggested by some that these cases may be some rare form of hemophilia, but there does not appear to be any similarity at all between the two classes of disease. The character of the rash is that of well-marked wheals, and is in no way purpuric, nor does there appear to be any history of heredity or family predisposition. W.

Ophthalmoscopic Evidence of General Arterial Disease

Mr. Marcus Gunn, in a paper read before the Ophthalmological Society of the United Kingdom (*Brit. Med. Jour.*, No. 1942, 1898), described the appearances seen in the arteries affected, as part of a change in which the arteries of the body generally and of the brain in particular shared. The general reflex from the vessel was brighter than normal, the central light streak was bright, and the whole artery was of a lighter color than normal. This was due to a hyaline change in the arterial walls; as a consequence of this change the circulation in the veins was impeded, and in some cases became invisible where crossed by an artery. As a further result of this venous obstruction, there was set up an edema of the retina, which might be either general or partial, the effect of which was to blur the details of the fundus. In some cases the size of the arteries was not uniform, the vessel would be narrowed at one spot, or increased in a certain part of its course; this change was most often seen in the small arteries in the region of the macula. The arteries were sometimes very tortuous. The central streak was narrow, bright, and with points of greater brilliance in it; this condition was also seen in hypermetropia, and after optic neuritis in the vessels arising from the optic disc, but in diseased vessels it was those of the second and third magnitude which should be looked at. There was a loss of translucency of the arteries, so that where the vein passed behind the artery it could not be seen. On the

other hand, if the vein covered the artery, the artery could be unduly seen through the blood-column in the vein, because of the thickening of the arterial coat, and partial emptying of the vein by the thickened artery as the two crossed each other. As a consequence of the hardness of the arteries, there was an interruption of the venous current, the vein was distended, and often hemorrhages took place along its course. The change in the arteries was a change in the coats, an irregular thickening; with this there was a loss in carrying power, and hence tortuosity. The change in the veins was due to the damming back of the blood; the walls of the veins and capillaries underwent degeneration, hence arose the hemorrhage. The question of etiology was one for the physician. The change usually occurred between 40 and 50. If well marked at this age the prognosis was grave. The patients had often been subject to migraine, indigestion, or gout. Chronic alcoholism was also a factor in the causation. In some of the cases known as hemorrhagic glaucoma this affection of the vessels was the cause of the changes which gave rise to the hemorrhages. It was in close association with renal disease, but the vessels of the eye and brain might be affected before the kidney. He had examined the eyes of all the patients in the National Hospital at one time who had had hemiplegia. In seven the arteries were normal, in ten they were affected, and in seven the changes were characteristic.

G.

Treatment of Hemoptysis

Dr. Harrington Sainsbury's views on the treatment of hemoptysis are briefly given in *Treatment* (No. 3, Part III, April 4, 1898). In tuberculosis there may be no physical signs, and yet oozing occurs from small vessels with miliary aneurisms. This initial hemorrhage may be profuse enough to cause death, even when no ulceration nor consolidation exists, but usually when the hemorrhage is large, under these circumstances (absence of signs), ulceration is present; all the more when the signs also are present (consolidation, shrinkage, cavitation). Sudden copious hemorrhage in a case of phthisis of long standing with localized lesion indicates aneurismal dilatation in a vessel of considerable size.

As the bleeding point is not accessible, treatment is limited to reduction of blood-pressure and improvement of blood. To accomplish the former, give the patient a recumbent posture with head and shoulders comfortably raised after the patient has been calmed from the excitement consequent on

the accident. The patient should be carried to the bed; not allowed to walk there. Matter-of-fact attention must be given to details, without hurry or excitement by nurse. Patient must not talk, nor raise the voice. The attendants must not whisper. Give broken ice to suck. Treat cough with morphia (1-10 grn. upwards). Keep bowels open to avoid increased blood-pressure. Keep room cool and well ventilated. Give bland and unstimulating nourishment, milk especially. Apply bag or hot flannels to chest to quiet circulation in mucous membrane of bronchial tubes, as occasion requires. Give chloride of calcium in doses varying from 8 to 16 grn., repeated pro re nata.

H.

The Spinal Cord in Some Cases of General Paresis

In general paresis little has been done with the cells of the anterior horns of the cord, though much time has been spent on the ganglion-cells of the higher motor centers. Berger, in the *Monatsschrift für Neurologie und Psychiatrie*, Vol. 3, 1898, p. 1, has given the results of the examination of twelve cases. He describes a number of pathological lesions, such as pigmentation, karyolysis, degeneration, destruction of the dendrites, tumefaction of the cells, changes in the nucleus, etc. In a number of cases he observed the picture of what appeared to be an incompleting regeneration of nerve-cells; the division of the nucleus into two incomplete parts, each with its own nucleolus. The greatest changes were found in the lumbar region, and in the greater number of cases such lesions were found, some 83 per cent. being affected. These changes are primary, according to the author, although some of them may be secondary to degeneration of some of the motor tracts from the cortex. Moreover, no relationship between the cortical changes and the cord-changes would appear to exist.

J.

Pneumonia Treated by Oxygen-Inhalations

S. Solis-Cohen (*Philadelphia Polyclinic*, Vol. VII, No. 5) states that the reason for the failures of oxygen in pneumonia is frequently that the physician waits until the patient is moribund before administering it.

Oxygen to be beneficial should be administered as soon as respiratory distress appears.

The gas is allowed to flow freely, so that the patient gets it from the inhaler without effort. Its administration is kept up from

ten minutes to thirty-six hours continuously, according to circumstances.

If begun in time it will usually be found that one-half hour's continuous inhalation, repeated every second, will suffice. Never, under any circumstances, should an interval of four or five hours or more be permitted to elapse between inhalations.

Conjointly with the inhalations of oxygen in severe cases it is usually necessary to give strychnine nitrate hypodermatically, say $\frac{1}{16}$ grn., every second to sixth hour, according to results. These cases, too, usually call for the sufficient use of nitroglycerin or amyl nitrite. U.

Habitual Constipation in Infancy

In beginning the treatment of the above disease Dr. T. S. Southworth (*Arch. of Ped.*, Vol. XV, No. 6, 1898) advises that the intestinal tract should be gently but thoroughly evacuated in order that the obstruction offered by the accumulated or hardened masses may be eliminated. For this purpose the writer prefers calomel in divided doses. It may be necessary at first to make daily use of mild laxatives, which facilitate the training of the bowel and assure proper evacuations during a gradual increase of certain elements in the diet on the addition of new substances, but the laxatives should then be decreased and withdrawn as soon as practicable. Where a mild action only is necessary, the tablets of rhubarb and soda, each grn. $1\frac{1}{2}$ (made up with oil of peppermint), may be dissolved and given once, twice, or three times a day, especially in those cases which depend upon disturbed intestinal function. Where this is not sufficient, the fluid extract of cascara proves one of the most reliable of the well-tested laxatives, infants requiring from one to four minims thrice daily. Preparations of malt with cascara have been lauded by undoubted authorities. Cod-liver oil, which there are good reasons for classing as a food rather than as a medicine, is peculiarly serviceable in those cases dependent upon poor nutrition, in which the addition of a fat is indicated.

In rather older children, where a more decided action is necessary, other drugs may have to be employed in varying combinations to meet definite indications. But it is chiefly where the neglected constipation is of long standing, and where from overdistention the muscles of the lower bowel have lost their tone, that we need for any length of time call therapeutics to the assistance of dietetics.

For comparatively short periods enemata may be employed with advantage, but they are extremely capable of abuse. For occa-

sional use they may be large, but when used daily the quantity of fluid should be small—the smallest that would stimulate the bowel to contract.

The writer believes that cold injections excite more extended peristaltic contractions, and that saline solution is less irritating to the intestinal mucosa than plain water. Glycerin, a teaspoonful in a tablespoonful of water, is a stimulant, has a hydropscopic action, and is one of the best measures at our command.

For cases which habitually require assistance, suppositories of gluten or glycerin are preferable, as they avoid the loss of tone, which comes from frequent distention of the bowel by enemata, but the profession has been warned against the use for children of medicated glycerin suppositories.

Much of the constipation of later life may undoubtedly be traced to irregular action of the bowels and the neglect of the formation of proper habits in infancy and childhood; so that when we look beyond the present and consider the ultimate results of intestinal torpor in years to come, the regulation of this function becomes imperative in every case, but we should endeavor to accomplish this by removing the cause through the employment of simple and rational dietetic and hygienic measures, remembering that the abuse of enemata and purgatives will eventually diminish the sensibility of the mucous membrane and produce atony of the muscular coats of the intestine. S.

Edema and Ecchymosis of Hysterical Origin

M. Halipré reports in *La Méd. mod.* (Vol. IX, No. 3) a case which occurred in 1894 at La Salpêtrière in the service of M. Brissaud. The patient was a woman, 43 years old, without any neuropathic element in her heredity.

When about 14 years of age, in consequence of emotion caused by the sting of an insect, she developed a slight edema at the site of the injury. This disappeared in a few days.

Since that time the edema has appeared once or oftener each month, sometimes upon the limbs and at others upon the face. Spontaneous ecchymosis has also occurred. Both conditions were characterized by being indolent, spontaneous, and evanescent.

The patient entered the hospital in 1894 because of severe laryngeal symptoms due to edema of the larynx and pharynx. These symptoms were so severe as to threaten the need of tracheotomy.

She presented no signs of renal or cardiac trouble. The classical stigmata of hysteria

were not present. The patient, however, admitted that, at about the age of 20, she suffered from attacks of vomiting, the result of vexation. These attacks had continued more or less frequently since.

The special characteristics of the vasomotor disturbances and of the vomiting pointed to the fact of their being of hysterical origin.

An interesting feature of the case is that the woman's daughter, now 18 years of age, has had similar manifestations since her second year. U.

Immunity and Serum-therapy in Yellow Fever

Sanarelli (*Annales de L'Institut Pasteur*, Vol. X, p. 753) gives a number of observations on the question of immunity and the treatment of yellow fever by serum. He shows that blood obtained from the cadaver of a yellow-fever patient agglutinated the *Bacillus icteroides*, but upon the living animal it has no protective effect. The serum of convalescent patients has a feeble agglutinating power, and has but a small preventative effect. Antidiphtheritic serum agglutinates very rapidly. Inoculation experiments have been carried on in guinea-pigs, dogs, and horses; immunization requires six months in the first animal and about the same for dogs; for horses it is very long and very difficult. All of these serums, according to Sanarelli, have a distinct preventive effect on these animals and can be used as curative agents. On man the results have not yet been satisfactory. J.

The Relation of Acquired Syphilis to Insanity

Dr. W. R. Dawson concludes his article upon this subject in the *Journal of Mental Science* (No. 149) with the following scheme of classifications.

The insanities of syphilitic origin he divides into three main classes, with subdivisions:

Class I. Insanity of early syphilis (primary and secondary).

(a) Acute toxic insanity (analogous to delirium or mania a potu).

(b) Melancholia with or without dementia, probably due to cerebral anemia.

Class II. Insanity of late (tertiary) syphilis.

(a) Insanity due to syphilitic disease of the base and vessels.

(b) Insanity due to syphilitic disease of the convexity.

Most, if not all, cases of cerebral syphilis in which insanity has been caused by epilepsy will fall under the second head (b), but

should rather be classed with epileptic insanity, being only indirectly due to syphilis.

Class III. Metasyphilitic (parasymphilitic) insanity.

(a) Insanity of tabes (so far as due to other than "moral" causes).

(b) General paralysis of the insane.

The classification only includes cases in which there is certainly, or probably, a gross anatomical change at the basis of the mental symptoms. But it is obvious that there are various indirect ways in which a disease like syphilis may produce morbid action in unstable minds. Such are the fear of contracting the disease; the worry, remorse, and anxiety produced by its existence; and the pain, insomnia, and other sensory symptoms so common in its course. With this class of cases, being but the indirect result of the disease, and in no way peculiar, no attempt has been made to deal. U.

Dysentery of Children

M. T. Guida (*Le Progrès méd.*) prescribes the following suppositories:

Neutral Sulphate of Aluminum and Potassium.....	grn. iii
Acetate of Lead.....	grn. $\frac{3}{4}$
Cocoa-butter.....	ʒ v
Melted Wax.....	gtt x

Mix and make into ten suppositories. Introduce a suppository every three or four hours. U.

Abundant Hematemesis Due to Simple Erosions of the Mucous Membrane of the Stomach

La Sem. méd. (No. 3, p. 20, 1898) gives Dieulafoy's report before the Paris Academy of Medicine of several cases of this kind having unusual interest. Two years before he had a patient with repeated abundant hematemesis, who succumbed in spite of all medical measures and in whose stomach was found only a simple superficial ulceration of the mucous membrane, as large as a half-dollar piece, within 3 ctm. (1 $\frac{1}{4}$ in.) of the pylorus, on the posterior wall. A year later a second patient was operated upon in whose stomach, with difficulty, was found a very small superficial ulcer which was treated with suture. Cure was effected, without recurrence of hemorrhage, in nine days' time.

Gilbert had two similar cases, one of which died of the formidable hemorrhages without operation; the other died after operation. The ulceration was superficial in both.

Copious hemorrhages, therefore, are not always the result of round ulcer, as is gen-

erally believed. A simple erosion over the track of an arteriole suffices. It is perhaps the initial stage of Cruveilhier's simple ulcer. Bazy found both co-existing in the same stomach at an autopsy.

Dieulafoy's cases were not tuberculous, nor uremic, nor syphilitic, nor had they had typhoid, but two had been alcoholics.

He favored surgical interference if the hemorrhage became considerable.

Fournier and Cornil supported Dieulafoy's inferred implication of syphilis in the causation of such hemorrhages.

A Study of Thirty-seven Fatal Cases of Cirrhosis of Liver

It was with the hope that something of interest might be learned concerning the etiology and symptomatology of obscure conditions of the liver that a study was undertaken by J. L. Morse, of Boston (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 10), from the medical records of the Boston City Hospital for the seventeen years ending with 1896. In 333 cases a diagnosis of cirrhosis of the liver, either as the principal or as a complicating condition, was made. In nearly 2000 autopsies made on medical cases, the clinical diagnosis of cirrhosis of the liver was confirmed in thirty-seven. For convenience of comparison they have been divided into three classes, according to the size of the liver as determined by autopsy, those larger than normal, the second within normal limits, the third smaller. It is of interest to note that clinically the increased size of the liver was always recognized, and its irregularity occasionally so. Hanot's classification of cirrhosis, with enlargement from the standpoint of etiology, is referred to as perhaps as satisfactory as any: Malarial, syphilitic, tuberculous, biliary from retention, alcoholic, fatty alcoholic, and, finally, perhaps belonging in a separate class, the hypertrophic cirrhosis with chronic icterus, so well described by Hanot. A table is given showing some interesting general points. From this table it appears that cirrhosis with enlargement, without change in size and with diminution in size, are equally frequent, and that the size of the liver is increased in a third of the cases. The male sex is more frequently affected. Cirrhosis with enlargement is more common in younger people; cirrhosis with atrophy in old. The average duration of symptoms is longer in the atrophic cases. Hemorrhage is a not infrequent cause of death in all forms, and a fatal hemorrhage may be the first symptom even in the hypertrophic form. An alcoholic history was obtained in every case in which the subject

was investigated. A history of previous malaria, syphilis, or gall-stones was occasionally obtained, but in none did it seem of etiologic importance. Ascites was about half as frequent in the cases with hepatic enlargement as in the others, in which it was sometimes the first symptom noted, though as a rule it was rather a late symptom in all forms. Jaundice occurred in more than half of the cases, more often in the cases with hypertrophy. In the hypertrophic form jaundice often occurred in cases in which ascites never developed, rarely without ascites in the other, it more often following ascites. The inconstancy of the symptoms and the irregularity of their development, both absolutely and relatively, are striking. The cases with hepatic enlargement maintained their nutrition better, had jaundice more frequently and earlier, developed ascites less often and later, and were less subject to hemorrhage. The spleen was enlarged in the great majority of cases of all forms; the early development of splenic enlargement and the apparent independence of ascites and splenic enlargement of each other seem to suggest some other or additional cause for the enlargement than partial congestion, which latter plays also a relatively small part. L.

Recurrent Idiopathic Pneumothorax, without Effusion, Ending in Recovery

D. Finny (*Dub. Jour. of Med. Sci.*, April 1, 1898) reports the following extremely interesting and rare case: The patient, a boy of eighteen, previously always in good health, awoke one morning, feeling a heavy weight on his chest; he went to work, nevertheless, but was compelled to return home on account of a violent pain in the chest and severe dyspnea. A physical examination revealed the characteristic signs of pneumothorax, including amphoric breathing and metallic tinkling. Succussion-signs were absent. The signs gradually disappeared in the course of two weeks. Two weeks after being discharged as cured, he was suddenly taken with the same pain and dyspnea as before, and on physical examination the same signs were revealed. He remained in the hospital four weeks and was discharged practically cured. After reviewing the literature of the subject the author reaches the following conclusions:

1. Simple or idiopathic pneumothorax is a very rare disease.
2. A repetition of the disease in the same lung is of still greater rarity.
3. In a very small number of cases the entrance of air into the pleura does occur

without any effusion of fluid, and this even may happen the second time in the same lung.

4. The absence of fluid renders the disease less fatal than when air and fluid are effused.

5. The presence of air in the pleura may occur without any febrile or constitutional disturbance.

6. In the face of such possibilities we should be cautious in giving too grave a prognosis in the case of a ruptured lung and pleura, and particularly so when there is no previous disease.

7. The tendency of such cases is toward spontaneous recovery, and in the absence of urgent symptoms calling for relief it is wiser not to employ surgical means in order to let out the effused air. R.

Fatal Pneumonia without Elevation of Temperature or Pulse

The patient, a strong man, 72 years of age, was brought to the hospital with a strangulated hernia, which had lasted for six days (Dr. Geo. S. Rennie, *Canada Lancet*, March, 1898). The man was operated on immediately and with complete success, but he died suddenly three days later. From the commencement of his illness the temperature had never been above normal; a few hours before death it rose to 99½. The pulse never reached 100 until the morning of his death. There had been no cough, expectoration, or pain; respiration was only slightly increased. The autopsy showed the cause of death to be a double pneumonia; it must have been present for several days before the patient's admission to the hospital, as it was in the stage of gray hepatization.

Colloid Degeneration of the Brain

The author, A. Alzheimer (*Arch. f. Psych.*, Vol. XXX, p. 19), describes two cases of colloid degeneration. The first occurred in a case of general paresis with optic atrophy and characteristic convulsive attacks. The sections showed lepto-meningitis, pachy-meningitis, and chronic colloid degeneration of the large ganglion-cells of the cortex.

A second case showed unilateral convulsions, loss of memory, and stupor, and finally hemiplegia and coma.

The autopsy showed colloid degeneration of the convolutions of the right hemisphere and basal ganglia, with secondary softening in the basal ganglia and crura.

A chemical and micro-chemical study of the colloid substance in both cases showed the following characters: It is soluble, when fresh, in warm water; with picro-carmine,

or with double staining with carmine and hematoxylin, the colloid substance colors a decided red, especially in specimens hardened with bichromate. With Van Gieson's mixture, colloid stains a light red, distinguishing it from hyaline substance. Eosin stains it deep red, and Rosin's mixture, which is to be specially recommended, stains colloid flesh-red, and bluish-green, blood-cells yellowish-red, and the rest of the tissue a light red. Weigert's fibrin-staining methods also give good differential stains.

The best results were obtained with bichromate-hardening. Alcohol is not good for colloid. The vessels were not affected in the degeneration. The paper is well illustrated and is a noteworthy contribution to our knowledge of a type of tissue-degeneration, and an excellent discussion of the micro-chemical means we possess whereby one may differentiate the many closely allied forms. J.

Pneumatic Treatment of Ear-affections through the External Auditory Canal

Dr. Schnirer reports to *La Sem. méd.* (No. 3, p. 24, 1898) notes from Politzer's clinic in Vienna, as communicated to the Imperial Society of Physicians, on the therapeutic value of massage of the tympanic membrane and ossicles with rarefied and condensed air.

Rarefaction of air in the external ear is used when there is increased pressure on the chain of ossicles from strong contraction of the tensor tympani or from obstruction of the Eustachian tube, and it is indicated after paracentesis of the tympanum to promote evacuation of serous, mucous, or purulent secretions from the middle ear or mastoid antrum. For this latter it is better than the air-douche through the Eustachian tube, especially where there is suppuration of the upper and posterior portion of the tympanic cavity where the air-douche is inefficacious.

Subjective noises, headaches, and psychic depression due to ear-trouble are often ameliorated by rarefaction of air, as also is vertigo following injections into the ear after paracentesis of the tympanic membrane. Ménière's vertigo and other vertigos are relieved by rarefaction. Nervous affections of the ear have been relieved. Politzer thinks, by diminishing tension in the labyrinth. Even epileptiform attacks have been stopped in this way by Delstanche, Goris, and Lecocq.

Rarefaction diagnoses atrophy of the membrane by exaggerated mobility and adhesions by absolute immobility. It may reveal suppuration in accessory cavities not

visible. It may bring into view polypi of the mastoid antrum. It may also evacuate cholesteatomatous masses of the attic and antrum. A drop of pus appearing at the upper portion of the cavity will point to abscess of the parts exterior to the dura mater.

Condensation is used to diagnose perforation of the tympanum by aid of the diagnostic tube in nostril, through which an air-bruit is heard during the condensation.

Politzer also employs condensation to expel through the patent Eustachian tube a cleansing liquid introduced through the outer ear. It sometimes removes noises. It also diagnoses middle-ear from labyrinthine affections after Gellé's method.

Interference with the function of conductivity indicates alternate use of rarefaction and condensation, where this interference is due to adhesions between the tympanum, ossicles, and walls of the cavity. This alternation is indicated also in thickening of the mucous membrane, in stiffness of the articulations of the ossicles, and in slight scleroses of the middle ear. It is contraindicated in atrophy, relaxed tympanum, and diminished acuity of hearing or increased noises after treatments.

Pathological and Bacteriological Researches on the Erythematopigmented "Taches" of Leprosy

J. Darier, in the *Ann. de Derm. et de Syph.* (Vol. VIII, No. 12), gives the conclusions that he has arrived at after the histological study of the macules in eight cases of leprosy.

The "taches" or macules of nervous, tuberculous, and mixed leprosy are a single nosographic species, whether their clinical appearance be erythematous, pigmentary, erythematopigmentary, infiltrated, or non-infiltrated. They are of a uniform and characteristic histological structure. They contain demonstrable bacilli in a large majority of cases. By a series of imperceptible gradations, they approach the "lepromes en nappe." They are of the same nature as the true lepromas of a leprous-bacillary nature. The virulence of the germ controls its evolution, and also the amount of resistance in the soil in which it resides.

The chief points upon which Darier insists are, that the bacillus is demonstrable in the macules; that the macules are of the same histopathological structure, whatever their clinical form; that through gradual stages the macules may pass into fully developed nodules, having the same nature as the nodules. It has been supposed that the

macules do not contain the bacillus, or only in very small numbers, and at their very earliest appearance. In Darier's eight cases, six showed by removal of portions of macules, the bacillus of leprosy in considerable numbers; of the other two they were not very numerous in one, and in the other they were not present. The technique in staining, he considers a very important point, using Ziehl's solution, and decolorizing with nitric-alcohol, leaving the sections at least two hours in the warm Ziehl's solution. In the early diagnosis of this disease the possibility of demonstrating the bacillus is of great importance. W.

On the Functional Importance of the Cell-body of the Neuron

The author, C. A. Pognat (*Rev. Neurologique*, Vol. VI, 1898, p. 158), presents a brief summary of the ideas of Cajal, van Gehrichten, and Lugaro with reference to the relation of the cell-body to the dendritic and axis-cylinder processes of the nerve-cells. He discusses Cajal's so-called laws, and maintains that they are open to much well-founded criticism. The author himself holds that the neuron is a nervous cellular unit, possessing two types of conductors, protoplasmic processes, and the axis-cylinder process, but it also possesses a center which is genetic, trophic, and functional, which is nothing else but the cell-body. J.

Acute Double Hydrocele Due to Secondary Syphilis

Dr. Howard P. Collings, of Hot Springs, Ark., reports a case of this kind in a paper read before the Hot Springs Medical Society, and published in the *Hot Springs Medical Journal*. The patient was an unmarried, colored male cook. He had not to his knowledge had gonorrhea, chancre, or chancre, but nine weeks before coming to the doctor there appeared a papular eruption on the forearms. Seven weeks before coming the left eye became red and inflamed and was extremely painful, and a week later the right testicle began to swell and become painful, while the inflammation in the eye subsided rapidly without treatment. Within twenty-four hours the second testicle began to swell and become as painful as the first. By the sixth day the pain in both was so excruciating and the swelling so very great that he could not stand on his feet. At his own option he applied vinegar and soda, which, in the course of a week, reduced the swelling considerably. Three days later he was able to take a bath, but the swellings soon became worse again. On the twenty-

fourth day of the swelling he noticed a softening of the left side, but from this time on there was little or no change until he consulted Dr. Collings. The doctor, in his report, then says:

"At this time the left side was as large as a large fist, and was elastic; the right side was as large as two large fists, and while it was apparently a solid body, very careful examination elicited slight elasticity, as though there was some fluid deeply seated.

"The skin-eruption, which had extended well over the body, was unquestionably syphilitic, and I prescribed for him accordingly. On the 12th of September, after very considerable improvement had taken place under anti-syphilitic treatment, the aspirator was used, and from the left cavity we drew off two ounces of a straw-colored liquid slightly tinged with blood, and from the right three ounces of a dark, bloody fluid. After removing the fluid from the right side its walls, though much reduced, were yet found to be quite rigid, and at least one-half inch in thickness. The skin-eruption had now disappeared, and the patient felt so well that he ceased his visits and abandoned his treatment. He came again, however, on the 15th of November, after an absence of two months, when it was found that the left side was nearly normal, while from the right we again removed three ounces of fluid similar in character to that formerly found.

"The patient came infrequently after this, but continued his treatment until all trace of the local trouble was gone, and I have no doubt he has since remained free from it.

"So far as I am informed there has never been a case reported of an acute hydrocele being laid at the door of syphilis as its cause. In this case every known cause of acute hydrocele was eliminated before it was attributed to syphilis, so the diagnosis was arrived at rather by exclusion than otherwise, but later was, I believe, confirmed by the treatment.

"The disease unquestionably attacked the serous membrane, primarily, and secondarily produced the inflamed, thickened, and indurated walls of the scrotum exterior to the tunica vaginals. In proof of the trouble having been caused by syphilis is the fact that there was marked improvement under antisyphilitic treatment from the first, although the fluid was not entirely absorbed; and the long-continued infiltrated condition of the scrotal walls on the right side in the absence of treatment. It is true the very acute symptoms at first had been relieved by local applications, but it had long since been at a stand-still before mercury was begun. Had the inflammation been due to

any cause other than syphilis, his improvement, already well begun, undoubtedly would have continued during the two months' discontinuance of the mercurial treatment. Instead, however, the right side not only did not improve, but the cavity of the tunica vaginalis refilled, and the thickening of the wall remained about the same. The skin of the scrotum had the appearance throughout of a syphilitic infiltration, which we often see in the foreskin as a result of the primary sore." _____

Chorea

Dr. B. B. F. Garrison (*Tex. Cour.-Rec. of Med.*, May, 1898) gives as causes of chorea: acute rheumatism, with consequent heart-complications; mental shock, especially fright; anemia, mal-nutrition, over-study, school-worry, bad ventilation, lack of relaxation and cerebral and neural unrest. Girls are more affected than boys, no doubt, because the disease is closely associated with emotional disturbances, to which the weaker sex is more prone. The disease occurs mostly between the fifth and the thirteenth year, and its average duration is from eight to ten weeks.

As to pathology, the author considers chorea an entirely functional disorder, affecting the motor centers of the spinal cord.

Before treatment the author would make a thorough examination, including analyses of the urine and the blood. Treatment would depend upon the etiology. Rest in bed for about ten days, a great deal of sleep, well-ventilated rooms; liquid diet to begin with, followed by nutritious, easily digested food; a great deal of water should be drunk; there should be tepid or cold sponge-baths night and morning, and the bowels and the kidneys should be attended to; arsenic to begin with and iron afterwards, the elixir of potassium or sodium bromide, *cimicifuga*, *conium*, *digitalis*, and *strophanthus* are to be used according to indications—such is the treatment.

[Chorea is at to occur in families in which nervous diseases are hereditary; it is found more in large towns than in the country and more among the poor than among the rich. Intestinal worms may be a cause. In "Quain" the seat of the disease is held to be in the corpus striatum; "Chorea has not," this authority states, "its seat in the cord." Cod-liver oil, ammonium bromide, zinc sulphate, chloral, and the anthelmintics may be indicated. If the movements are very severe, bandaging and binding the feet together, the hands by the sides, and a blanket folded over the abdomen and hips will give relief.]

SURGERY

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Charred Straw in Surgery

Dr. Z. Kikuzi (*Georgia Jour. of Med. and Surgery*, June, 1898, p. 349), of the Japanese army, considers this material an ideal dressing in surgery. Charred straw is the black residue left after burning rice-straw with a limited access of air. The charred straw is filled into bags of disinfected gauze, of different sizes, which are then sewn up and ready for use. He summarizes his experience as follows:

1. The absorbent capacity of charred straw has been proved to be much greater than that of gauze.
2. Charred straw is ready for use everywhere, not alone in the Orient, and it is easily prepared in large quantities, which is not the case with gauze.
3. With regard to cost, charred straw has the advantage over gauze. An average dressing of gauze costs thirty cents, while a dressing of the same size of charred straw costs only about 1-50 of a cent.
4. Charred straw is ready for use immediately after having been burned; that is, it is disinfected during the process of preparation, while the preparation and disinfection of gauze is a complicated process.
5. There is no need of transporting charred straw, as it can be obtained everywhere.
6. As regards its softness, elasticity, and general usefulness, it differs very little from gauze.
7. From a military point of view, it is of importance that the large storage-room required ordinarily for surgical dressings may be dispensed with, since, in time of war, the preparation of this material can be carried on wherever it may be required.

R.

Hip-joint Amputation

Heinrich Braun (*Deutsche Zeitschr. f. Chir.*, XLVII, pp. 421-434) has written an article on the above subject, in which he describes a new method for controlling the bleeding in those cases where the seat of the disease does not permit of the application of an elastic ligature. An incision is made just above Poupart's ligament, and the external iliac artery laid bare. This artery is followed up until the bifurcation of the internal iliac is found; the external is then ligated and hemorrhage from the internal controlled by digital compression. This primary incision is carried below Poupart's ligament, and the exarticulation made with all expedition. By this mode of procedure very little hemorrhage occurs, the gluteal

vessels being easily found and tied before the pressure is taken from the internal iliac. The hemorrhage which occurs from the regurgitation of blood from the external iliac vein must be controlled by ligating this vessel. This is more difficult than tying the femoral artery, but if it is not done enormous hemorrhage sometimes takes place. Prof. Braun gives the history of two cases, both of which terminated successfully, and closes the article by a rehearsal of the history of hip-joint amputation. T.

Operative Treatment of Hydronephrosis

Dr. Paul Wagner (*Centralbl. f. d. Krankh. d. Harn und Sex. Organ*, IX, 169-186) says that a positive diagnosis of the cause of the retention of urine cannot be made in the majority of cases of hydronephrosis, and that therefore at first we should only practice a symptomatic treatment. Later, as is often the case, the etiological factors may clear up and the obstruction should then be removed. As a rule, in all cases, even though the dilatation is small and the symptoms slight, we should not hesitate to resort to operative procedures. Sometimes massage of the tumor may be followed by good results, but this treatment is unreliable and dangerous. The simplest, surest, and least dangerous method for relief of the hydronephrotic tumor consists in the incision and drainage of the sac, designated as nephrotomy, or better pyelotomy. From 30 to 35 per cent. of cases thus treated heal absolutely within a few weeks or a month after the operation. Results after pyelotomy are most favorable in cases of so-called open hydronephrosis, in which the blockage to the outflow of the urine is only temporary, and it is of benefit in cases of closed hydronephrosis, where either none or very little of the kidney-substance is still functionally active. If after a year or more of time has elapsed the fistula following the operation is still open, three modes of procedure are still left to the surgeon. 1. He can discharge patient with an unhealed fistula. 2. He can endeavor by operative procedures to overcome the hindrance to the outflow of the urine through the ureter. 3. He can perform a secondary nephrectomy.

The fistula may be let alone when the fluid coming from the opening is a very small amount of clear urine. A large amount of urine or purulent contamination demands further operative treatment. Those operations which have for their object the reopening of the normal exit-passages of the urine are of two kinds: 1. Plastic operations which better or change the position of the entrance of the ureter into the pelvis

of the kidney, and 2, operative removal of ureteral strictures. Also there are various operations which may be done on the lower end of the ureter.

If after such operations as above mentioned there is still a patulous and annoying fistula, we may then think of secondary nephrectomy. But before proceeding with this operation we must determine as to the condition of the other kidney, and should not operate unless it is healthy and functionally active.

Extraction of Immature Senile Cataract

Dr. Carl Barck (*Amer. Jour. of Ophthal.*, Vol. XV, No. 5, 1898) considers that the surgeon should not wait until a senile cataract becomes "mature" before extracting it. He has operated on ten cases, in all of which good results were obtained. Dr. Barck tells us all that is necessary is a large corneal and especially capsular incision, sufficient to insure an unhindered exit. The latter he makes vertically from below upwards, going as far as possible behind the iris, and then adds two horizontal ones, from the nasal and temporal sides respectively, meeting the first.

The author does not report the cases in full, but mentions the salient points. In a number of them there was only a small central opacity, and the peripheral portions transparent enough to allow a plain view of the fundus after dilatation of the pupil. In three the writer tested the lens immediately after the operation by laying it upon printed type, and found that it was plainly readable through the cortical portions. The vision before the operation was as follows:

6/L, 6/L, 6/L, 6/LX, 6/LX, 3/L, 3/LX, 2/L, 1/LX,
1/LX.

A small iridectomy was made in each case. In only one instance a small part of the lower posterior cortex was found wanting on examination of the lens; most probably stripped off by too small a corneal incision. It afterwards swelled, but became resorbed without reaction. In one of the cases a secondary discission was performed, and in the last case operated, which is still under treatment, it may also be required. The final results were:

6/XII, 6/XV, 6/XV, 6/XV, 6/XXIV, 6/XXXVI,
6/I.

One patient left for the country, and the glasses were afterwards prescribed by his physician there. Reports good vision. Two were not tested finally.

The author offers the following conclusions:

A senile lens, however small the opacity

may be, is coherent enough to admit of an easy extraction *in toto* by the proper method.

To wait for the so-called maturity is unnecessary. The operation can be performed as soon as the sight is impaired to such a degree that the vocation or comfort of the patient is interfered with.

All operative procedures for artificial ripening are unnecessary and contraindicated, exposing the eye to a twofold danger.
G.

Primary Fatal Hemorrhage after Removal of Adenoids

Schmiegelow (*Monat. f. Ohrenheilk.*, 1897, XXVI, 115) removed adenoids in a child of 12 years without anesthetic in an out-clinic in Copenhagen by means of Guttstein's curette. After a few strokes first in the median line and next on the right side, a gush of bright blood from nose and mouth was barely stopped by plugging before the child became cyanotic and died, having lost half a liter (1 pt.) of blood. Right lateral wall was found post mortem to be injured. The carotid was not injured at that point. It was microscopically normal. The child had been held in an assistant's lap.
H.

New and Original Method of Osteoplastic Resection of the Skull

J. J. Buchanan (*Med. Rec.*, 1898, Vol. LIII, p. 802) claims the following advantages for his method of opening the skull:

"1. It causes very little injury to the bone.
"2. It is not attended by jarring or other possible injury to the brain.

"3. It is free from danger to the dura mater.

"4. It is precise in its results, and the flap is capable of any required variation of shape.

"5. The bone-flap, when returned to place, fits exactly and has no tendency whatever to displacement.

"6. It is easy and comparatively rapid of execution, causing no fatigue to the operator.

"7. The instruments are simple, inexpensive, not liable to break or get out of order, and are not dependent on a motor of any kind."

The operation consists essentially in the perforating of the skull with a small trephine at the corners of a pentagon or any other desired figure, and then by means of a Gigli-Haertel wire-saw connecting these holes by cutting through the bone on all sides of the figure except at the base. The saw is passed from one opening to another by threading it along a grooved director

which has been gently pushed between the dura and skull. The flap is turned down by forcibly fracturing the base. T.

The Transplantation of the Rectus Muscle in Certain Cases of Inguinal Hernia in Which the Conjoined Tendon Is Obliterated

J. C. Bloodgood (*Mary. Med. Jour.*, Vol. XXXIX, No. 4) in an interesting paper uses the term "obliterated" in the sense that the extreme condition is more likely to be an acquired one than congenital. The conjoined tendon may, however, be congenitally very narrow or very attenuated. These are the important points to be recognized as to operative interference; also, that the lower angle of the inguinal canal (Hesselbach's triangle) has lost its strongest support (the conjoined tendon), and that something must be substituted for the defect at the operation for hernia (the transplanted rectus muscle). In cases in which the conjoined tendon is obliterated, if the index finger be inserted, invaginating the scrotum, after passing through the external ring, the finger does not meet any obstruction, but can be introduced without difficulty into the abdominal cavity for some distance; in this position, to the medial side the finger feels the sheath of the rectus muscle; by curving the finger downwards and backwards the posterior surface of the symphysis pubis can be easily palpated. The opening into the abdominal cavity extends from the outer border of the rectus and from the arch of the pubis, upwards and outwards to the internal oblique muscle. Impressed by the large proportion of recurrences in the few cases, 50 per cent., in which the conjoined tendon has been obliterated, and with a hope of solving the additional problem thus presented, the author has devised, and in eight cases performed, a plastic operation on the rectus muscle, bringing this muscle down and suturing it with the other available tissues to Poupart's ligament and to the aponeurosis of the external oblique from the arch of the pubis up to the position of the transplanted cord. The method of operation, with this exception, is the same as that followed in the typical Halstead operation. Before inserting the deep sutures the sheath of the rectus muscle is exposed; this is easily done by retracting upwards and inwards the aponeurosis of the external oblique and internal oblique muscles. The sheath of the rectus is divided in the direction of the muscle-bundles from its insertion in the symphysis pubis upwards for a distance of five cm. After the division of the sheath the outer border of the belly of the

muscle bulges out; it is caught with two or three sutures of heavy black silk, which are needed as retractors to draw the muscle outwards and downwards. The deep sutures of silver wire are then inserted in exactly the same manner as described in Halsted's operation, with the addition that the four sutures below the transplanted cord include the sheath of the rectus and the muscle; when these sutures are tied the rectus muscle is approximated to Poupart's ligament and aponeurosis of the external oblique, from a position just below the transplanted cord to the symphysis pubis, in addition to the divided and transplanted internal oblique muscle. The author claims no originality in the use of the muscle to strengthen the hernial wound, but simply the original idea of transplanting the rectus to strengthen the wound in certain cases of hernia. L.

Deflections of the Nasal Septum

There are not a few patients with weakened and de-vitalized constitutions who are given tonics with little good result; the real cause may be an unexamined obstruction in the nasal passages by which the patient suffers air-hunger with consequent deficient oxygenation of the tissues. T. C. Evans (*Louisville Jour. of Surg. and Med.*, June, 1898) mentions as complications and sequelæ of deflection of the nasal septum mouth-breathing, with all its attendant evils, disturbance of speech, chronic deafness, hay-fever, frontal headaches, hypersecretion of the nasal cavity, defective drainage, diseases of the accessory sinuses, pharyngitis, laryngitis, asthma, and the more remote reflex phenomena of chorea and epilepsy; purely anatomical factors are deformity of the nose, distortion of the face, contraction of the alveolar arch and dental irregularities.

To correct this deformity the author performs, with confident expectation of a good result, the operation originated by Dr. Morris J. Asch. The patient is anesthetized. The operator passes his little finger through the stenosed nares and examines as to the extent of the deflection, its point of greatest convexity, whether an enchondrosis exists and whether there are adhesions between the septum and the outer wall. Then the scissors invented by Dr. Asch are introduced with the non-cutting blade on the stenosed side, in the line of the greatest convexity and parallel with the floor of the nose; the blades should close with a snap, showing that the septum has been completely incised. Then the scissors are withdrawn and their direction is changed; a second incision is then made at right angles to the first and intersecting it

near its centre; the septum is thus divided into four fragments. A probe-pointed knife may then be introduced to extend the horizontal incision backward to the vomer and the vertical incision upward to the nasal bone. An Adams septal forceps is then introduced, one blade in each nostril; each of the four fragments is caught separately and twisted on its base with sufficient force to loosen its articulation and completely destroy its resiliency. This having been done, the finger should again be introduced to find if the passage has been made clear; if not the forceps must be re-applied and resisting fragments must be broken down. Then the nasal cavity should be irrigated and the clots removed from the naso-pharynx. Then Asch's vulcanite perforated nasal tubes should be inserted; on the stenosed side the tube should be sufficiently large to retain the now pliant and flaccid septum in the normal position; it should not be large enough to cause pain or unnecessary pressure. Care must be taken not to pass the tube through the aperture in the septum made by the scissors; then a small tube must be introduced on the open side to support the septum and keep the fragments in apposition until healing takes place. In from twelve to twenty-four hours the cavities should be irrigated through the tubes with a hot boric-acid solution; this may be repeated every three hours. On the third or fourth day the tubes should be removed and thoroughly cleansed. Then the nose is sprayed with cocaine and a weak alkaline solution, and the tubes are replaced. After the first week the patient can himself remove, cleanse, and re-insert the tubes. On the stenosed side the tube will have to be worn constantly for six weeks; then it may be removed during the day and worn at night for four or five weeks longer. The smaller tube on the open side can be removed at the end of the second week.

Several drawings graphically illustrate Dr. Evans' paper.

[This operation, when thoroughly done (and it must be done thoroughly to insure good results), is extremely bloody—which fact may disconcert the surgeon who does it the first time. The anesthesia should not be profound, for all respiratory reflex should not be lost. The patient should be placed on the side of the table so that, should there be occasion, he can be quickly turned on his side and his head depressed to prevent blood from entering and clogging the larynx. Hypodermatic solutions of nitroglycerin, ether or camphor, pearls of nitroglycerin and instruments for possible tracheotomy should be at hand. There are

two kinds of Asch scissors, one for the horizontal and one for the vertical incision; and the vulcanite tubes are of various sizes to fit individual cases.] G.

Tumors of the Kidney in Childhood

J. H. Morgan (*Med. Press and Circular*, Vol. CXVI, No. 9), in his recent Lethsonian lectures, declares that tumors of the kidney in childhood are almost without exception malignant, most of them sarcomatous, though a few bear affinities to the adenomata, and in rare cases show pigmentation. These originate from the cortex and invade the gland or the perirenal tissue. Very rarely they commence in the adrenals. By pressure the tumor may cause hydronephrosis and adhesions, or edema of the lower extremities or ascites. They are frequently bilateral, and neither traumatism nor antecedent disease has much to do with their origin. So rapid is the growth of these neoplasms that they present only two symptoms in their earliest onset, viz., that of a large rounded tumor commencing in the loin, and hematuria. The nature of the swelling is soon evidenced by the rapidity of its increase, and the hematuria is intermittent, the urine in the intervals being clear. Clots may form in the bladder or ureter, when pain may be superadded. Cachexia does not appear until late, but is then rapid. The conditions are few which give rise to any difficulty in distinguishing between these tumors and those of neighboring parts. Malignant disease of the suprarenals is rare, and the origin of such growths may be indicated by pigmentation of the skin, and an abnormal growth of hair about the pubes and other parts of the body. If operation be resolved upon the older the patient and the smaller the tumor the greater the chance of success. L.

Renal Tuberculosis.

C. G. Cumston (*Annals of Gyn. and Ped.*, Vol. XI, No. 5) records the case of a woman, aged 27 years, complaining of pain in the region of the left kidney, hematuria, anorexia, and night-sweats. Examination of the lungs gave negative results and Koch's bacillus had not been found in the urine. Inoculation of two guinea-pigs with the urine, however, caused their death within twelve weeks from miliary tuberculosis of the peritoneum. A diagnosis of renal tuberculosis was consequently made in her case. The author refers to a primary and secondary tuberculosis of the kidney, both of which may require surgical interference. The symptoms met with in renal tuberculosis are: hematuria, pyuria, and

pain, although these may not all be present at once, the patient complaining sometimes of but one. The serious symptoms produced by tuberculosis of the kidney by their repetition, increasing intensity, and their obstinacy to any medical treatment naturally diminish the physiological resistance of the patient and the general health deteriorates, consequently surgical interference becomes indicated. Nephrotomy or nephrectomy, either primary or secondary, is indicated. Nephrotomy is a palliative operation and should be resorted to in every case in which the bad general condition of the patient is a contra-indication to performing a prolonged operation, and the symptoms, by their increasing severity, demand immediate relief. This operation is the only one that should be undertaken in those cases in which we are in doubt as to the condition of the other kidney, or under these circumstances, laparotomy may be performed and both kidneys examined, but it must be remembered that removal of the kidney through an abdominal incision is more dangerous than through the lumbar incision. When there is a large perirenal abscess, the lumbar incision is the only proper method to pursue. Primary nephrectomy is indicated when it has been demonstrated that the patient has tuberculosis of only one kidney, without any or only slight vesical lesions, and the general health is still good. Secondary nephrectomy should be performed after a preliminary nephrotomy, when the latter operation has improved the general condition of the patient if a fistula persists which could not be closed by the usual treatment. Nephrotomy can be done when a more radical operation is out of the question, because the focus of infection which is undermining the health of the patient can thus be drained. This operation also controls hematuria and pain.

L.

Stricture with Extravasation in Which Suppuration Occurred behind the Pubes

Bruce Clark reports a case of stricture (*Med. Press and Circ.*, No. 3075) through which no instrument could be passed. A rectal examination revealed the fact that there was a great deal of thickening about the region of the prostate and vesiculæ seminales, as well as in the region of the triangular ligaments, probably a tuberculous complication. The stricture was relieved by a Wheelhouse's operation. A week later the temperature gradually rose, the patient developing some tenderness below the pubes. On further examination by means of a probe passed in from

the seat of the wound, pus was found. An incision was made above the pubes, and a counter-opening down to the side of the rectum so as to drain the pelvis, which proved to be full of pus. The pus having also found its way up behind the peritoneum into the lumbar region, another counter-opening was made just below the last rib. The whole cavity was well irrigated with izal (1-200), drainage-tubes being inserted. The author points out that the thickening which had originally been felt round the prostate was undoubtedly the beginning of an extravasation backward round the base of the bladder, a rare complication of stricture, and one which is generally regarded as an almost certainly fatal one. The draining of the bladder by the first operation had not availed to prevent the onset of suppuration, owing to the slow infiltration of the cellular tissue round the bladder, which had taken place before the patient had presented himself for treatment. It was the only case he had seen in which such extensive suppuration had resulted from such a cause. The patient recovered, convalescing gradually. L.

Varicose Veins and Their Treatment

Treatment (March 24, 1898) gives W. H. Bennett's experience in the treatment of varicose veins. In persons nearing middle life increase in varicosity is surely indicated by frequent attacks of cramps due to repeated recurrence of small thrombi in the intramuscular veins.

An elastic stocking must be perfectly fitting or it will tend to increase varicosity.

Operation may be necessary for—

1. Increase in the varicosity.
2. Existence of large cysts or dilatations, especially on the inner side of the knee.
3. The occurrence of discomfort or other complication.
4. The requirements of the public services.

The methods of operating are:

1. Simple ligature.
2. Excision, ligature, or torsion for hemorrhage.
3. Torsion and avulsion.

Excision comprises:

1. Removal of large number of small portions of the veins of a considerable extent of limb.
2. Removal of considerable lengths of individual veins.
3. Removal of isolated varicose masses.

Mr. Bennett thinks the second of these methods, removing considerable lengths of individual veins, to be the best treatment.

H.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Pregnancy Following Ventrofixation, with Improvements in Technique

A. Lapthorn Smith read a paper before the American Gynecological Society, at Boston, on May 24, 1898, on this subject.

His conclusions were based upon about 2,500 cases by 41 operators, including 111 cases of his own, reported in reply to a circular letter of inquiry:

1st. That as far as curing retrodisplacements is concerned, whether retroflexion, retroversion, anteflexion with retroversion, and also prolapse of the uterus, ventrofixation with two buried silk stitches passing through peritoneum and fascia gives the most reliable results. Failures are unknown when the operation is performed in this way.

2d. Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as detachment of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because

3d. Although pregnancy only followed in 148 cases out of about 2500, still in 30 per cent. of these, or 36, there was pain, miscarriage, or difficult labor requiring obstetrical operations.

4th. When suspensio uteri was performed—that is the uterus attached to the peritoneum—only a few relapses occurred; but on the other hand, the patients were free from pain during pregnancy and the labors were less tedious; neither did they require resort to serious obstetrical operations. The uterus should therefore be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain.

5th. A third method, it is claimed by some, namely, the intra-abdominal shortening of the round ligaments, is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube, or, in cases in which the latter are not removed, simply by detaching them from adhesions and shortening the round ligament by drawing up a loop of it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30

per cent. of the cases of ventrofixation are certainly avoided.

6th. If the uterus is attached to the abdominal wall, the stitches should be kept on the anterior surface, but near the top of the fundus; the complications were more frequent when there was too much anteversion than was the case when the anterior surface of the fundus was attached to the abdominal wall.

7th. As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

8th. Several correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's operation should therefore be preferred whenever the uterus and appendages are free from adhesions.

9th. The results of Alexander's operation are so good that even when there are adhesions it might be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method; after which the abdomen should be closed. This could be done without adding more than $\frac{1}{2}$ of 1 per cent. to the mortality, which in Alexander's operation is nil.

Ectopic Pregnancy Twice in Same Patient

The infrequency of a second ectopic pregnancy in the same patient leads C. B. Schoolfield (*Virg. Med. Semi-Month.*, Vol. II, No. 21) to report two cases as follows: Patient, aged 27 years, was operated upon February 8, 1890, by Dr. Reamy, the case being reported in the *Lancet-Clinic* December 26, 1890. Her health subsequently remained good and menstruation regular up to and including November 15, 1893. She missed her regular period in December following. February 25 patient had severe pains with syncope, followed by slight hemorrhage, which reappeared several weeks later. Upon consultation the abdominal walls were found so thick and the uterus drawn up so high that its size and shape could not be made out; but to the right could be felt a small tumor the size of a small orange. Taking all the symptoms, so similar to her former tubal pregnancy, together with the lump to the right of the uterus, the conclusion was arrived at that it was a case of tubal pregnancy which had ruptured into the broad ligament. The

patient made a perfect recovery without operation.

Second patient, aged 29 years, had been operated upon by the writer January 29, 1892, for abdominal pregnancy three months after full term and death of the child, this case also having been reported in the *Lancet-Clinic*, December 3, 1892. Menses were regular later until February, 1896. Two months later, Dr. S. was sent for hurriedly; patient gave a history of irregular menstruation, vomiting with colicky pains, shock with syncope, and the passage of a pseudo-deciduary membrane. General peritonitis was present. A diagnosis of ectopic pregnancy with suppuration in the sac was made. Being profoundly icteric the opinion was ventured that the case was one complicated with gall-stones. Vaginal section was performed, a fetus of about three months' gestation, and a part of the placenta, with a large quantity of organized blood-clot was turned, and the cavity irrigated. Death followed three hours later. Upon autopsy the left tube was found ruptured. It contained the remaining portion of the placenta. A calculus the size of a pigeon's egg was found in the gall-bladder. Although the etiology of tubal pregnancy is in some respects obscure, the author gives as principal etiological factors, twists of the Fallopian tube, due to arrested development, inflammatory conditions that paralyze, bind down, or occlude the tube, or destroy the cilia, diverticula of the tube, and uterine or ovarian neoplasms. As regards treatment, attention is drawn to two points, one referring to the choice of methods of operating, the other one to duty as regards the remaining appendage. If no children have been born and there is an earnest desire for offspring, it would be an additional calamity to take away this hope. At the same time ocular evidence is not always sufficient to prove that it is safe to leave even an apparently healthy tube behind. L.

A Large Vaginal Cyst

W. R. Lincoln (*Cleve. Med. Gaz.*, Vol. XIII, No. 4, p. 212) reports an interesting case of vaginal cyst which was unsuspected until he had unintentionally opened into it while performing a perineorrhaphy, several ounces of a homogeneous, yellowish, slimy fluid exuding at the time. Upon enlarging the accidental opening it was seen that a cyst the size of a tennis-ball had been entered. Further examination of the sac showed that it ran up the vagina in the median line and to each side for about two inches from the introitus. The sac was

so intimately connected with the vaginal tissues and the rectum, and the recto-vaginal septum together with the sac-wall was so thin that complete excision of the latter was impossible. It was found, however, that the internal secreting surface of the cyst could be readily removed, partly by peeling and partly by means of the curette, which maneuver was carried out, and the operation concluded as a perineorrhaphy, the raw surfaces which were opposed to each other being partly made up of the cyst-walls. The sutures were so placed that should any discharge accumulate, it could drain away at the apex of the V-shaped flap. There was a good result. The tissues removed were unfortunately lost; no report of the histological structure was therefore obtained. L.

The Relation of the Ureteral Catheters to the Surgery of the Kidneys in Women

Within the past three years E. Reynolds (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 11) has catheterized the ureters seventeen times in women for supposed surgical disease of the kidneys. The importance of such examination rests upon the fact that it enables one to isolate the disease and to determine with certainty not only which kidney is affected, but exactly what the condition of each kidney is. Points to which the author draws attention are:

1. The symptoms may be transposed, that is, the pain and tenderness may be referred by the patient to the comparatively sound kidney.

2. There may be a transitory inflammatory affection of the sound kidney which should lead us to defer operation until it has passed away.

3. The choice between nephrotomy and nephrectomy, and sometimes the decision as to whether any operation is or is not permissible, should be decided by a comparison of the relative condition of the two kidneys.

4. In cases of renal calculus, the question between nephrolithotomy and nephrectomy must depend largely upon whether the condition of the affected kidney affords a prospect of good healing and a useful kidney after nephrotomy.

Four cases are reported in detail illustrating the above points. As some of the most common symptoms suggestive of renal stone may be due to stricture of the ureter, rapid dilatation of the strictures by bougies is a means of relief. The evacuation and washing out of pus through the ureteral catheter is sometimes an expedient of considerable value as a temporary and palliative procedure. L.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

A New Formula for Yellow Salve

F. Shanz (*Centralbl. für prakt. Augen.*) recommends the following formula instead of the usual form of yellow oxide of mercury ointment used in ophthalmic practice:

Hydrarg. oxid. flava.....	0.1-0.2
Adip. lanæ. }	.....aa 1.0
Aq. dest. }	
Vasel. Americ. alb. pur ad.....	10.1

The author recommends it for the following reasons: The water containing salve is well borne by the eye, mixes well with the conjunctival secretion, does not become rancid, can be kept from degenerating by being placed in an opaque vessel, and holds the medicament in very fine subdivision.

Peronin as a Hypnotic

Peronin has been used by Dr. Meltzer (*Therap. Monatsh.*, XII, p. 316) as a hypnotic in a number of cases of paralysis. The author summarizes the uniformly excellent results obtained by stating that in doses of from 0.04 to 0.1 gme. (2-3 to 1 1-2 grn.) peronin exerts an action similar to that of morphine, but is free, at the same time, from the disagreeable by-effects of the latter, while being eminently sedative and hypnotic. Among the hypnotics its place is intermediate between morphine and paraldehyde, amylene, chloral, sulphonal, trional, etc. F.

The Analgesic Value of Pyramidon

This new claimant for antipyretic analgesic honors is a derivative of antipyrine, and is said to be three times as effective and four times as poisonous as this drug, as reported by Lepine (*Lyon Méd.*, LXXX, p. 215).

The above author has employed it in twenty cases of various nervous ailments, and to the extent of his experience has nothing but praise for the new remedy. He has found it very efficacious in stilling pain, and has seen no ill effects of any kind from amounts up to 45 grn. a day, the usual dose being 4 grn. from three to five times daily. A case of tabes is instanced for the lightning-pains, from which the usual analgesics afforded no relief, even morphine in considerable doses being without effect, but in which 10 to 12 grn. of pyramidon three or four times daily made the patient entirely comfortable for several weeks, at the end of which time the paroxysms of pain ceased. In all the other cases but one the drug re-

lieved the pain from which the patients suffered, and this exception was an extremely bad case of neurasthenia with generalized pain that had resisted all other modes of treatment. In most of the patients the author compared the results obtained from pyramidon and 15-grn. doses of antipyrine, and without exception the former remedy was preferred.

He has also used the drug as an antipyretic in typhoid fever with excellent results, but considers that his experience is as yet too limited to draw positive conclusions. He feels sure, however, that the remedy is of real value and merits an extended trial. F.

For Hyperhydrosis

Dr. Heusner (*Ges. Therapie*, p. 380, 1898) recommends:

R Bals. of Peru.....	1.0 (15 grn.)
Formic acid	5.0 (75 grn.)
Chloral hydrate.....	5.0 (75 grn.)
Alcohol	100.0 (3½ oz.)

In local hyperhydrosis apply this solution by means of a piece of cotton; in general hyperhydrosis apply by means of atomizer.

Methylene-blue in Hemorrhagic Nephritis

Dr. A. Kramer, reports (*Sem. méd.*, XVIII, p. 126) having given doses of 0.5 gme. (89 grn.) of methylene-blue with 0.1 gme. (1 1-2 grn.) of salol in a case of hemorrhagic nephritis. After 1.5 gme. had been taken, under simultaneous appropriate regime and hygienic conditions, the albuminuria disappeared and the general condition was considerably improved. A relapse some two years later occurred, and the remedy was again employed, when the symptoms disappeared after the third day of treatment. Since then the writer has treated three other cases of hemorrhagic nephritis with methylene-blue, and with similar success. F.

Methods and Use of Natural Thermal Alkaline Waters

C. N. Brandt (*Phila. Med. Jour.*, Vol. II, No. 15, p. 645) calls attention to two factors upon which must largely depend the good results to be hoped for in the treatment of any condition by the use of natural alkaline thermal waters, or of any kind of water, as a therapeutic agent. 1. The absolute realization of the value of water as a therapeutic agent and a knowledge of its proper dosage. As stated by Baruch, there are three methods of dosage: by changing the temperature, the pressure, and the duration of the application. Hence the need of careful training and instruction in each individual case, to those who are to act as agents

in the use of such a powerful therapeutic agent. 2. A careful supervision of all the factors that go to promote a thorough and perfect fulfilment of the functions of all the organs of the body, exercise, diet, rest, etc. These two principal factors being thoroughly, conscientiously, and understandingly observed, one may fairly expect good clinical results. A patient's entire day is provided for, strict rules as to diet, the amount of food, the variety and amount of mineral water to be taken, and also the amount of and kind of exercise, the hours of rising and retiring, are insisted upon by the physicians at the springs. L.

In Epilepsy

The following combinations are recommended for epilepsy (*Cent. f. d. ges. Therapie*, p. 315, 1898):

1. Zinc oxide..... } 5.0 (grn. lxxv)
 Camphor..... }
 Ext. of belladonna.....aa 3.0 (grn. xlv)
 M. f. pil. No. C. S.—One pill morning and night.
2. Zinc lactate..... 0.05 (grn. §)
 Sugar..... 0.5 (grn. 8)
 Make one powder. Tol. dos. No. XXX.
 S.—One powder three times a day.
3. Zinc oxide..... 0.05-0.3 (grn. §-5)
 Ext. of hyoscyamus 0.05 (grn. §)
 Valerian, powdered 0.5-1.0 (grn. 8-15)
 Oil of valerian. 0.05 (i min.)
 Make one powder. Tol. dos. in char.
 cerat. No. XXX.
 S.—One powder three times a day.

R.

The Intranasal Use of Medicated Oils or Oily Fluids

In diphtheria the occasional occurrence of a prolonged period of infectiveness after apparent recovery has suggested an important precaution, that of keeping, throughout the attack and for some time after recovery, the nares protected by some antiseptic and healing application. For some years Wm. Ewart (*Brit. Med. Jour.*, May 28, 1898) has made this a rule of nursing in his cases, and carbolized oil (1 in 60) has been systematically introduced, either by the swab or by the dropping method. A very small quantity of oil (15 drops), repeated twice a day, will suffice, and it is believed that this precaution, if carried out methodically, might materially diminish the risk of a late transmission of diphtheria during convalescence.

The use of medicated oils is beneficial in affections of the nostrils, naso-pharynx, and sinuses, as well as in those respiratory affections in which the trachea and the larger bronchial tubes suffer jointly with the nose and the naso-pharynx, and also in some cases of neurotic dyspnea or

asthma, in which the nose is the seat of irritation.

The same mode of application is suitable to all cases. A small quantity of carbolized oil (1 in 60), flavored with some essential oil such as that of almond or bergamot, is introduced into the nostrils whilst the patient is lying down with the head thrown back. A small glass syringe fitted with a spray nozzle is best, but failing this, a common nozzle will answer; or the oil may be simply dropped into one or both nostrils. The patient should be directed to turn the head from side to side to facilitate the spreading of the oil. Where the object is local treatment of the frontal sinuses, it will be necessary to throw the head still further back, and to keep it in that position for a minute or two. If the quantity of oil should have been excessive, or if it should have been dropped instead of sprayed, it will trickle down the back of the throat, and this often excites some nausea. The quantity which has generally been used is fifteen drops, but even a less quantity may be found useful, and the objection stated may then not arise. The oil may be made the vehicle for various remedies. Recently, for instance, in a case of recurring epistaxis, in which the source of hemorrhage was thought by the patient to be in the frontal sinus, tannin was added to the oil, and the latter was felt by the patient to reach the spot in question. In many cases stimulation is wanted quite as much as, or even more, than mere protection. The author has therefore availed himself of a well-known formula: Menthol, thymol, aa grn. i; ol. eucalypt., mv; ol. olivæ ad. ʒ iss; and this has been preferred by some patients to the oil, and in others has been found efficacious where the latter did not relieve the symptoms. The stimulating solution is specially useful in neurotic cases.

The conditions in which the local use of medicated oil may be found of value are the following: Continued pyrexia; nasal dryness and fetor; tachypnea and hysterical tachypnea; obstructive and naso-pharyngeal troubles; dry naso-pharyngeal catarrh and granular pharyngitis; tracheal and bronchial catarrh, and in asthma of reflex nasal origin. G.

Injections of Sodium Salicylate in Large Doses in Articular Affections

Harlet, of Roubaix (*Sem. méd.*, Vol. XVIII, p. 114), recommends the use of rectal injections of large doses of sodium salicylate in diverse, painful, articular lesions, particularly of rheumatic origin. This method, he claims, rapidly suppresses the

pains, avoids cardiac complications and relapses, and does not disturb the alimentation of the patient. The author uses from 8 even up to 12 gme. (3 dr.) of the salicylate per day, in two injections of a cupful of water each, to which are added, if desired, several drops of laudanum. The bowels should first be evacuated by means of a laxative injection. The absorption of the remedy is complete in from six to eight hours. The quantity of the salicylate is reduced by 1 gme. (15 grn.) every other day, according to the results obtained, and when 7 gme. (1½ dr.) are being given, only one injection is made daily, in the evening. Should the pains recur, the doses are again increased. Whenever a considerable revulsive effect is desired, the author has recourse, besides, to an ointment containing 10 per cent. of salicylic acid and a little oil of turpentine or carbolic acid, applied to the affected articulations. The patient should be kept in bed for ten to fifteen days after the pain and swelling have disappeared. Patients treated as above complain but very little of buzzing in the ears, suffer no loss of appetite, and rarely vomit. When this last does occur, a diminution of 2 to 4 gme. (30 to 60 grn.) of the remedy per day relieves it. This treatment yields excellent results, not only in acute articular rheumatism, but also in subacute rheumatism, blennorrhagic arthritis, rheumatic iritis, pleurisy, and hydrarthrosis, whether acute or chronic. In this last affection, doses of 5 or 6 gme. of the salicylate must be continued for a couple of weeks in order that the results be definite and durable. F.

Thyroglandin in Obesity and Myxedema

William MacLennan (*Brit. Med. Jour.*, No. 1958) reports having used thyroglandin in a number of cases of obesity and in myxedema. Thyroglandin is prepared by the following chemical process: Selected and healthy glands are macerated in cold water, which extracts the soluble iodoglobulin. This solution is decanted or filtered off, and is evaporated to dryness at a temperature of 212° F. The resulting product is reduced to a fine powder. The residual glands are then boiled for one hour with a weak solution of caustic soda, which eliminates the thyroiodine. After filtration the solution is exactly neutralized with hydrochloric acid, evaporated to dryness, and powdered. The two powders so obtained (iodoglobulin and thyroiodine) are mixed together and constitute thyroglandin. It will thus be seen that this new preparation is made in such a way that thorough sterilization is secured, and that it is freed from

everything deleterious which might be derived from the other animal substances of the gland, while it contains the iodoglobulin and thyroiodine in the form and in the proportion in which they exist in the gland.

Thyroglandin is said to keep perfectly, if kept thoroughly dry.

It may be administered in capsule or in tablets, and in doses of 3 to 5 grn., which are equal to half a gland of average size and weight. The very active therapeutic properties which are exhibited by thyroglandin lead the author to believe that it is a preparation of great value. If it really represents all the active constituents present in the gland in their correct form and proportion, it may prove a very useful addition to our thyroid preparations. F.

Ichthyol in Eye-diseases

Ebersson, of Tarnow, reports (*Klin. therap. Wochenschr.*, V, No. 18) on the further use of ichthyol in eye-diseases, and cites the clinical history of fifteen cases, among which were eight cases of trachoma, two of catarrhal ophthalmia, one of conjunctival catarrh complicated with corneal ulcers, one of catarrhal corneal ulcer, etc., in which the remedy was used with great success. His results are summarized as follows: (1) Ichthyol is a certain remedy for trachoma, the duration of the disease being decidedly shortened, and a reliable cure being attained. (2) The treatment with ichthyol is particularly to be recommended for children. (3) Ichthyol brings about the cure of conjunctival catarrh, with or without corneal complications, in the most rapid time possible. (4) Ichthyol is a powerful remedy for clearing corneal cicatrizations. F.

Tuberculin R.

Stark, of Erb's clinic (*Münch. med. Woch.*, April 26, 1898; ref. in *Brit. Med. Jour.*, May 21, 1898), reports the results obtained from treatment with tuberculin R. in ten cases of phthisis and three of lupus. In five further cases of phthisis the treatment was as yet not complete. Other methods of treatment except expectorants were discontinued. The patients were under observation for some time before the commencement of the tuberculin treatment. All the cases were in the first stage of the disease and there was no epidemic as yet of any secondary infection. The tubercle bacillus was found in all the cases. The injections were given at 10 A. M., and the temperature was taken every two hours after the injection for twelve to twenty-

four hours. Up to last August staphylococci and streptococci could be obtained from cultivation by the tuberculin, but the author has never found the tubercle bacillus. Since the end of last year more attention has been given to the preparation of tuberculin, and since then no reaction has been observed. Generally 1-500 mg. of the dry substance was given at first, and this dose was gradually increased, the injection being generally given every second day. Any rise of temperature was carefully guarded against. An unexpected rise of temperature may be due to contamination of the preparation, or an apparent accumulation of tuberculin in the body. A single dose of 6 mg. was never exceeded. On an average twenty-five injections were given, 30 to 40 mg. being thus injected. There was a local reaction in twenty-four out of the 234 injections, consisting mostly of redness, pain, some swelling, and in four instances infiltration. In two cases, in spite of all precautions, there was always a reaction. As regards the physical signs, in no case did they appear worse, and in four cases there was distinct improvement. The body-weight increased considerably in all the cases. Albuminuria, diarrhea, increased pulse-rate, etc., were never observed. In all the cases there was considerable subjective improvement, and in only four cases was there no objective improvement. The author then discusses the question whether the improvement could have been due to anything else but the tuberculin. In comparing these cases with those treated in other ways in the clinic it would appear as if a larger number improved under tuberculin than under other methods. The author obtained the impression that the tuberculin acted favorably upon the tuberculosis. In the case of lupus tuberculin R. is recognized as a valuable remedy. The results obtained encourage the author to a further trial of the remedy. The course may be repeated after an interval of two to three months. The author discusses the causes of the want of success of tuberculin R., and he attributes it chiefly to its being used in unsuitable cases.

G.

The Treatment of Gonorrhea by Hot Water

C. S. Murrell (*Mass. Med. Jour.*, 1898, Vol. XVIII, 289-292) suggests the prolonged use of hot-water irrigations in both acute and chronic gonorrhea. A soft catheter is passed to within one inch of the prostatic urethra. It is then connected with a "gravity apparatus," in which the water is gradually heated up to the toler-

ance-point. The stream flows through the catheter and then back between catheter and mucous membrane, thus flushing out the anterior urethra. Several quarts of warm water are thus passed, some patients having a tolerance-point as high as 180°-190° F. The advantages claimed for this method of treatment are as follows:

"1. The course of the disease is shortened by at least two-thirds, making the average limit of the case—viz., stoppage of the discharge—nearer one week than three.

"2. The discharge immediately changes from a purulent to that of the nature of gleet, and is reduced to a very small quantity.

"3. There is absence of chordee and pain in passing urine.

"4. Stricture, as a sequel, which is well understood to often be the result of strong astringents used, is improbable.

"5. The usual inconveniences of the disease are done away with."

T.

Treatment of Surgical Tuberculosis With Pyrogallol

The favorable results obtained by the employment of pyrogallol in lupus, led Veiel, of Cannstatt (*Sem. méd.*, Vol. XVIII, p. 126), to try the remedy in other forms of local tuberculosis, deep cutaneous tuberculosis, tuberculous adenitis, and osseous tuberculosis. In the case of cutaneous tuberculosis and of softening of the tuberculous glands, the author first applies to the affected parts, for from three to eight days, compresses charged with petrolatum containing 10 per cent. of pyrogallol. These effect the destruction of all the diseased tissue. When this is accomplished, weaker pyrogallol mixtures (0.25 to 2 per cent.) are then applied, which are sufficiently strong to prevent the regeneration of morbid tissue without hindering the development of the granulations. With this treatment the cure is very rapid.

In the case of osseous tuberculosis, the author, after first extracting the dead-bone tissue if necessary, and curetting the fistulous canals, introduces into the interior of the wounds and fistulas wicks coated with petrolatum, containing 2 per cent. of pyrogallol (0.25 to 1 per cent. in the case of children). The dressings are renewed every four days, and the fistulas rapidly heal. The urine must, of course, be watched during the treatment, so that the use of the remedy may be suspended on the appearance of blood or albumin. Intoxication has never been observed, and this is much less to be apprehended by the application of pyro-

gallol when combined with petrolatum, than when in aqueous or alcoholic solution. The favorable effect of pyrogallol on the tuberculous processes is due, the author claims, to the destructive action exercised by it on the hypertrophic granulations, an action which hence assures a free passage to the products of the secretion of the morbid tissues. In this respect pyrogallol differs advantageously from iodoform, as the latter favors the excessive development of granulations. F.

Carbon-disulphide Poisoning

The poisoning-symptoms of carbon disulphide are not yet well known to the profession, though with the increase of rubber factories cases become more and more frequent. Lucas-Championnière (*Jour. de Méd. et de Chir.*, May 10, 1898) reports the following case: A man of 36 had been working in a rubber factory since he was 14, and always healthy. About six months before coming under the doctor's observation, he began to show symptoms of mental derangement. He became absent-minded; to questions put to him he answered not to the point; soon he noticed a weakness, first in the right leg, then in the right arm. He walked with great difficulty. The reflexes were pronouncedly increased; the paretic condition and difficulty in walking depended rather on a lack of coördination than upon weakness. He frequently broke out in fits of laughter, and his memory, both for recent events and events long past, was very much weakened. Basing himself upon this and the other published cases, the author says that CS₂ intoxication may present various symptoms. In some cases there may be genuine acute mania, which, however, is usually of short duration. In other cases the symptoms are those of grand hysteria, and this was the reason Charcot and Marie considered carbon-disulphide poisoning one of the etiological factors in grand hysteria. In other cases there is disseminated paralysis and atrophy, with signs of peripheral neuritis. In other cases, as in the one above described, the loss of memory is so great that the patients may be taken for imbeciles. R.

The Thyroid and Thyroid-Therapy

H. Snévé (*Northwest. Lancet*, Vol. XVIII, No. 12) summarizes his views on the above subject as follows:

(1). The thyroid gland produces a secretion of the greatest importance to the metabolism of the body. Absence of function produces cretinism if congenital, myxedema if acquired.

(2). Simple hyperplasia (simple goiter)

does not produce marked pathological disturbances, but I believe it to be a larvated form of exophthalmic goiter, and I think that so-called "nervousness" can be found in the vast majority of cases.

(3). Hyperplasia associated with disturbance of the cervical sympathetic is the disease known as exophthalmic goiter.

(4). Surgical interference in diseases of the thyroid gland should be limited to the removal of neoplasms; thyroidectomy in exophthalmic goiter is unphysiological, irrational, and dangerous.

(5). In the majority of cases of exophthalmic goiter, medicinal and hygienic treatment, rest, galvanism through the neck (two to five M. A.), tonics, sodium phosphate, and thymus-gland will effect amelioration. In cases refractory to medical treatment, where life is threatened, section of the cervical sympathetic should be practised.

(6). Many cases of neurasthenia are cases of masked exophthalmic goiter, and should be treated accordingly.

(7). Thyroid-therapy is specific in sporadic cretinism, myxedema, and simple goiter, and removes obesity.

(8). Thyroid extract increases the unpleasant symptoms in exophthalmic goiter, and is a reliable test also in the masked form of this disease. S.

Oil of Eucalyptus in Pulmonary Actinomycosis

Dr. G. Butler, of Brooklyn, reports (*Nowv. Rem.*, XIV, p. 288) having observed a case of pulmonary actinomycosis which, at first, had not been recognized, but mistaken for gangrene, on account of the very dark color, nauseating expectorations, accompanied by profuse perspirations, such as are observed in pyemic conditions. For the fetid breath and expectorations, oil of eucalyptus was prescribed, in doses of 0.3 gme. (5 grn.) at first; later 0.6 gme. (10 grn.), taken in gelatin capsules, every four hours day and night. Three inhalations daily were also ordered of the remedy, and under this treatment, the cough diminished and, in little less than a week, the expectorations had become inodorous. On continuing the treatment, a cure was rapidly attained.

For Fetid Breath

The following formula is recommended as a mouth-wash in fetid breath (*Rev. gén. de Pharm. et de Hyg.*, Vol. I, p. 15):

Saccharin	
Soda Bicarbon.....aa	1.0 (15 grn.)
Salicylic Acid.....	4.0 (4 dr.)
Alcohol	105.0 (4 fl. oz.)

R.

REVIEWS

Die Säuren der Rindergalle und der Menschengalle. Von Prof. Dr. Lassar-Cohn. Verlag von Leopold Voss: Hamburg und Leipzig, 1898.

The position which Prof. Lassar-Cohn occupies in the field of physiological chemistry is sufficient guarantee of the thoroughness and the authoritativeness of the work before us. Everything that is known at the present day regarding the acids in bovine and human bile will be found minutely explained in this brochure of eighty reviews in detail, the work done by all previous investigators in the field, such as Thenard, Berzelius, Gmelin, Hoppe-Seyler, Lotchinoff, Mylius, etc.; in the second half, the author presents his original researches and experiments. That they were most conscientious and painstaking, goes without saying.

Aids to Aseptic Technique. By Dr. A. D. Whiting. Press of the J. B. Lippincott Company, Philadelphia. Price \$1.00.

This handsome little volume presents in a concise manner the most important principles pertaining to aseptic surgery. Special attention is paid to the agents and methods of procuring asepsis; the chapters on the preparation of the patient and the hands of the operator could, however, be abbreviated, as several statements are mere repetitions of those made in previous chapters. Pages 109 to 112 could advantageously be omitted, as the object of this book is not to direct the selection of instruments, but how to render them aseptic. Excepting these and a very few more minor faults, the little volume at hand forms an excellent guide to the busy practitioner, and will, we trust, quickly take the place of the more voluminous, tiresome text-books on the subject.

A Manual of Legal Medicine. For the Use of Practitioners and Students of Medicine and Law by Justin Herold, A.M., M.D., formerly Coroners' Physician in New York City and County, etc., etc. J. B. Lippincott Company, Philadelphia, 1898.

One of the largest gaps in the collection of facts with which the average physician's mind is stored pertains to the subject-matter of this volume. It is a deplorable fact that so few medical men have even the faintest ideas of the important questions of medical jurisprudence. The present volume is an excellent guide to make good some of the deficiencies. The book is divided in two parts. Part one deals with Toxicology and Part two is devoted to Forensic Medicine. The principal poisons, their effects and lesions, methods of treatment and methods of detecting the same in the dead body are carefully considered. One of the best chapters is "On the Evidences of Death." The medico-legal aspects of some of the recent poisoning cases is well presented.

In Part two, on forensic medicine, almost every subject of importance to this branch of science is considered. In Chapter XX some excellent ideas relative to the making of medico-legal autopsies are presented. In Chapter XXIV a very good résumé of our knowledge of the blood in its medico-legal aspects is given, and excellent tables of the measurements of various bloods of various animals are prepared. The

subject of wounds is exhaustively treated, and the discussion of death from suffocation, electricity, drowning, hanging, etc., carefully considered.

The work closes with an appendix in which a number of illustrative cases is given. Taking it all in all the work is a very excellent one, well conceived and executed.

Atlas of Legal Medicine. By Dr. E. von Hofman, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. Authorized translation from the German. Edited by Frederick Peterson, M.D., assisted by Aloysius O. J. Kelly, M.D. Fifty-six plates in colors, and 193 illustrations in black. Price, \$3.50 net. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

This volume will prove of great value to physicians who have to deal with medico-legal cases. It is one that should be in the hands of every coroner, every medico-legal expert, and every lawyer who has medico-legal cases to handle in court. A volume like this, made up chiefly of photographs and drawings of pathological conditions, the true interpretation of which may decide issues of life and death, honor and dishonor, wealth and poverty for the patient or the client, is one that should be of great value to those connected with such cases. Judges and jurors, lawyers and clients, patients and their friends can understand such pictures at a glance, and with them can compare the normal with the abnormal with remarkable facility, whereas if they had but verbal descriptions before them they would be lost in a sea of incomprehensible words. The coloring is unusually good, particularly in the illustrations of the effects of various poisons on the tissues, of the results of long submergence in water, and of the conditions of the organs of generation. The translator in his preface truthfully says: "This volume is a veritable treasure-house of information, gained from the rich material of one of the greatest institutions of legal medicine in the world, and collected by one who, until his death a few months ago, was perhaps the ablest living expert in his chosen domain of work." The publishers have done their part of the work with their usual excellence.

The Appellate Court of Rhode Island has handed down an opinion in which it is held that Christian scientists are not medical practitioners in the legal sense of the term. This will constitute a precedent for the escape of all kinds of quacks.

At the last meeting of the Texas State Medical Association a resolution was passed appointing Drs. R. H. Harrison, M. M. Smith, Bacon Saunders, J. D. Osborne, and S. C. Red to prepare a bill for the creation of a state board of health in Texas, with such power of collecting vital statistics, analyzing articles of commerce offered for sale in Texas for the consumption of her citizens as medicines, food, and drink; and for all other duties belonging to a state board of health; and that said committee shall be known as "legislative committee No. 2," to urge upon the state legislature the importance of enacting such law for the general welfare of the people of Texas, not only in protecting the public health against preventable or infectious diseases, but also the hurtful effects of articles of medicine and food offered for sale to the public under false or fraudulent claims that should be exposed or condemned.

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EDITOR'S NOTES

A perfect deluge of deserved honors seems at present to have fallen to the lot of Dr. William Osler, of Baltimore, Md. No medical name is more frequently mentioned with favor at home or abroad than his, and no one has done, or is doing, more to merit such pleasant recognition. As a thinker, medical author, scientific observer, and medical teacher he has few peers and no superiors. It is only a few weeks since his name was mentioned in connection with membership in the Royal Society of Great Britain; then we learned that he had become dean of the medical department of Johns Hopkins University; now we hear that he is to be offered the chair in medicine in the University of Pennsylvania, made vacant by the death of Dr. Pepper; and a dispatch from Edinburgh, Scotland, lately related that the University of that city had conferred upon him the degree of doctor of laws. In his case, at least, we have evidence in favor of the old saying that "it never rains but it pours."

In an editorial in the July 21 issue of the *Boston Medical and Surgical Journal* it is said that "We have gained so much of exact knowledge through pathological and experimental research that future contributions to current medical literature should be stripped almost entirely naked of theory and speculation, those barriers to scientific

progress." We have often wondered what could be the source of this totally erroneous idea about theory and speculation which so many medical men seem to entertain. The very reverse of this statement is the truth. It is theory and speculation that constitute the very soul of scientific progress. It was paucity of theory and speculation that held us fast in ignorance during the dark ages. Every scientific investigator is such because of his ability to think out many theories and many speculations and test them one by one. The more successful he is the larger the number of theories and speculations he is able to think out. Deliver us from the man with one theory, as he is always the most dangerous foe of science and progress. He is the one-ideaed man who never changes his mind. He jumps at a diagnosis and sticks to it in spite of facts. He does not believe in theories, he tells us, yet he is always irrevocably wed to one theory that it is impossible to dislodge from his mind. Inductive science has given us modern civilization and the weapons of induction are working hypotheses. Induction without theories would be dead. The inductive reasoner tries all possible theories, being wedded to none. He kills them off one by one as he finds them inadequate, but he first gives all a fair trial. By trying every way that theory leads he is sure to go the right way on final trial. The fellow who does not believe in theories always has one theory, refuses to try any other, and in 999 times out of a thousand he is wrong. Give us theories—the more the better—but test them.

At the recent annual meeting of the New York State Pharmaceutical Association at Rochester, in a discussion that occurred upon the relations of physicians to pharmacists, Mr. Alpers, of New York city, had the following words of wisdom for his fellow pharmacists:

"I am glad to hear from the last speaker that the last part of the report was not intended to censure physicians. Let us clearly understand that the physician has a right to prescribe and to specify what he pleases, be it a regular official preparation, a new synthetic compound, a proprietary article, or goods of some manufacture that he prefers to others for some reasons. Neither the great variety of similar preparations, nor the obscurity of some specified article, gives us the right to criticize the prescription. There is no way out of it. This state of affairs may be a hardship to us. We may suffer by it, but we can never deny the

right of the physician to order what he thinks is good for his patient. We cannot say he is wrong because he orders John Smith's elixir, nor say that John Smith's is all right, but he must not prescribe it, because we have John Brown's instead. We can never put ourselves on record as in the least censuring the physician for ordering what he honestly believes to be for his patient's good. If the physicians are wrong in judgment it is not our business to say so. The more you pass such resolutions intimating that physicians are wrong in ordering whatever medicine they please, the more will you widen the breach between pharmacist and physician. The physician's friendship is a valuable capital to the pharmacist. Let us strive to gain it, not by dishonest commissions or presents, but by doing our duty faithfully and practising our profession with devotion and ability." This is a sound, common-sense view of the matter and one that it will be wise for all pharmacists to take.

PUBLISHERS' DEPARTMENT

THE DR. JAEGER CO.

The Dr. Jaeger Co. has received many valuable recommendations of its elastic abdominal bandages, a large quantity of which it furnished free of charge for distribution among our soldiers in the field. Many medical authorities gave their approval of the action and have written favorably in regard to the benefit derived from the wearing of these bandages in the regions where fever attacks so many thousands of our sons.

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THE AMERICAN NAVY, CUBA, AND HAWAII

A portfolio in ten parts, sixteen views in each part, of the finest half-tone pictures of the American Navy, Cuba, and Hawaii, has just been published, and the Chicago, Milwaukee & St. Paul Railway has made arrangements for a special edition for the benefit of its patrons and will furnish the full set, one hundred and sixty pictures, for one dollar. In view of the present excitement regarding Cuba these pictures are very timely. Send amount with full address to George H. Heafford, General Passenger Agent C. & M. & St. P. Ry., Chicago, Ill.

IMPERIAL GRANUM

George W. Williams, D.D.S., of Richmond, Indiana, one of the leading dentists of that state and a popular writer on dental subjects, in a recent article says:—"Many of the prepared foods sold for children are destitute of the qualities necessary to form sound and painless bones and teeth. Diet is of the first importance in promoting the upbuilding of the bony system, and incidentally we would state that as a food for this purpose there is nothing that will equal 'Imperial Granum.' It is a pure, unsweetened food, made from the most nutritious portions of the finest growths of wheat. Perhaps the most important period in childhood is when the first set of teeth are erupting. It has been calculated that one child in ten has its life destroyed in consequence of diseases which have their origin at this time. Thus it is evident that children should be watchfully cared for, and I believe that besides those who die from diseases readily traced to irritation during the eruption of the first teeth, a number are the victims of diseases superinduced by general neglect of the mouth and the consequent tooth-decay and improper mastication of food."

NEWS

The Hebrew Orphan Asylum of New York has had an epidemic of dysentery among the children due to bad drinking-water.

Dr. Gray, of the hospital ship "Relief," blames the Red Cross Society for spreading yellow fever, because it started hospitals in Siboney contrary to orders.

The attorney-general of Iowa has decided that itinerant doctors must pay the state a tax of \$250 per year, and each city and town can likewise assess them afterwards.

University College, Liverpool, England, according to the New York *Times*, has opened a school and museum devoted exclusively to the training of sanitary inspectors.

Rochester, N. Y., has established a Public Health Association, the object of which is to purge the city of all unsanitary conditions and educate the masses in sanitary matters.

At a recent meeting of regimental surgeons at Chickamauga fifty-five declared they would resign rather than submit to the conditions brought about by the existence of the division-hospital.

The San Francisco health-board has pronounced the sanitary conditions of Camp Merritt "frightful." The owners of the lots were ordered to clean them up as fast as the troops left.

Dr. Carter, of New Orleans, has gone to Cuba to establish inspection stations and disinfecting plants. He hopes to prove by their effectiveness that quarantine will no longer be needed anywhere.

The Michigan Board of Health has just held its quarter-centennial celebration at Detroit in conjunction with the International Health Convention. Many interesting papers were read by sanitarians of world-wide reputation.

Chester, Pa., has now a Physicians' Protective Association, with a black list for the names of those who beat the doctors out of their pay. The members claim that their loss from this class of customers is over \$30,000 annually.

The Knights of Pythias of Chattanooga, Tenn., have made arrangements for the establishment of a hospital to care for the sick of the

members of the order among the volunteers at Chickamauga Park.

New York, in seeking to destroy its garbage by burning it at Barren Island, has been polluting the air for miles around, so that in the Borough of Brooklyn an anti-stench league has been started to fight for pure air.

The Senate Special Committee of New York, on the establishment of a state hospital for consumptives, has agreed to recommend a point near Axton, Franklin county, in the Adirondack Mountains, as most suitable.

Diphtheria is spreading in Baltimore, and the health board places the blame on medical men who cannot or will not diagnose and report such cases so that they can be quarantined. Parents object to the doctors reporting such cases.

The San Francisco *Call* has been interrogating leading citizens in order to ascertain their sentiments concerning what we should do with the incurably diseased. Only one man among them all, and he an ex-soldier, was in favor of euthanasia.

In a large number of cases of death among the soldiers at Santiago nostalgia was given as the cause. It is likely that there was something more than plain homesickness as the cause, although it may have been a serious factor in their affection.

Chief Surgeon Maus, of Camp Cuba Libre, at Jacksonville, Fla., has organized a medical society among the medical officers of the corps for the purpose of discussing camp-diseases and their treatment, as well as for gaining instruction in the various regimental duties.

The Denver Board of Health is strongly urging every one in that city to get vaccinated, as it is learned that there are a number of cases of smallpox in outlying towns and a great deal of it in parts of Mexico that are in direct railway connection with Colorado. All who wish can be vaccinated by the board free of charge.

The value of the probe as a diagnostic instrument in locating bullets in modern military service has been almost entirely superseded by the employment of the X-ray. If, as is often the case, the whereabouts of a bullet is unknown, its presence and exact location can be determined without pain or any additional risks to the patient by the use of the X-rays.

The Atlanta Medical College and the Southern Medical College have consolidated under the name of the Atlanta College of Physicians and Surgeons. Dr. W. S. Kendrick is dean. The faculty, in announcing the consolidation, say: "We are determined that it shall result in a university of medicine which shall offer advantages second to none to be obtained in the United States."

Great dissatisfaction is being expressed with the present division-hospital system in the army. The men object to being taken away from surgeons in whom they have confidence and who have personal interest in them and being put under the care of strangers. The regimental surgeons complain against being held responsible by the men and their relatives for hospital conditions over which they have no control. The soldiers bear the same feeling toward the division-hospital that is popularly borne toward charity hospitals.

Not long ago it was announced that Niagara Medical College of Buffalo had consolidated with the University of Buffalo. Before all the books and laboratory appliances had been removed

from the Niagara Medical School the rejected faculty got together, reorganized, and are preparing to reopen the Niagara Medical College again. Thus this institution is expected in the fall to occupy two places at the same time.

Annuaire Demographique, 1897, for Brussels, gives an interesting table of death-rates. In the period 1864-73, 5045 deaths represented 27.8 per 1000. In the decade 1874-83, 4300 deaths represented a mortality of 24.6 per 1000. In the next period, 1884-96, 3987 deaths, a mortality of 22.1. For these three decades the mean was 24.6. For 1897, the mortality was 16.3. This is a steady reduction of mortality in each succeeding decade.

The *Medical Record* says: "Poor Santiago!—Spanish rule of Cuba was notoriously bad, but it had at least one redeeming feature. Among the many articles the importation of which into the island was prohibited by law, were medical preparations of unknown composition. Under American rule this prohibition has been annulled, and now the natives will enjoy the opportunity for unlimited indulgence in the liver-ticklers, vegetable compounds, pile remedies, and other delectable nostrums that are swallowed in such generous quantities by the people of this free land."

Dr. Havelock, of the Montrose (Scotland) Royal Lunatic Asylum, in speaking of his patients using bicycles, lately said: "A few of the men in suitable cases had been allowed to cycle and had materially improved both mentally and physically in consequence. It is believed that this form of recreation and exercise has a beneficial effect in the early stages of some forms of mental disorders, and I have seen several cases where it has hastened convalescence and established a sound recovery. Cycling seems to distract the mind from the morbid trains of thought and intense self-absorption in such cases more effectually, perhaps, than any other kind of recreation available."

The Indiana Board of Health, according to the *Louisville Courier-Journal*, will recommend in its report to be issued soon that the custom of interring bodies be discontinued. Cremation is regarded as the only safeguard against the spread of disease that is frequently traced to cemeteries. It is claimed that the origin of diseases heretofore regarded as mysterious is due to the poisons in the earth. It is held that the earth is not a disinfectant. Earthworms bring to the surface from dead bodies germs of typhoid fever, consumption, lock-jaw, yellow fever, etc.

Dr. Hurty, secretary of the Board of Health, says: "As it is impossible to prevent, finally, the return of the elements of a body to nature, why not reap the advantages of cremation to the living by returning the elements without delay? Sentiment—a great power, by the way, even when false—only stands in the way."

Dr. Booth, of Shreveport, La., has lately returned from Porto Rico, and to a Washington *Post* reporter he said: "I did not find a single case of yellow fever in Porto Rico. There was a general prevalence of smallpox, however, though not among our own troops. When we first landed I inquired of an old Spaniard whether there was any sickness about, and he replied in a nonchalant sort of a way that there wasn't much, except a little up in the neighboring town. When I went there I saw several children lying about on the floor of an open house and an old woman fanning them with palm-leaves. The young ones were down with

smallpox, but neighbors kept coming and going and no one appeared to realize the seriousness of the situation. In this way the disease is made to prevail all the time. There is also some malaria. This is really more dangerous than yellow fever, when the latter is properly treated, for there are very simple and efficacious remedies against yellow fever which were used with complete success in the last epidemic at Brunswick, Ga., in 1893, and which I intended to use also in Porto Rico."

The twenty-fourth annual meeting of the Mississippi Valley Medical Association will be held at Nashville, Tenn., October 11-14, under the presidency of Dr. John Young Brown, of St. Louis, Mo. This association is second in size only to the American Medical Association and has done most excellent scientific work in the past. The annual addresses will be made by Dr. James T. Whittaker, of Cincinnati, on Medicine, and by Dr. George Ben Johnson, of Richmond, Va., on Surgery. The mere mention of the names of these gentlemen establishes the fact that the association will hear two scholarly and scientific addresses. Nashville is a most excellent convention city and is well equipped with hotels, and with the record of the meeting in Louisville in 1897, as an example, the local profession under the leadership of Dr. Duncan Eve as chairman of the Committee of Arrangements, has prepared to have a better meeting. Already titles of papers are being received. These should be sent to the secretary, Dr. Henry E. Tuley, 111 West Kentucky street, Louisville, Ky., as early as possible to insure a good place upon the programme. Reduced rates on all railroads will be granted on the certificate plan.

In order to prevent the spread of yellow fever the following order was sent to General Shafter: "The Secretary of War directs that the following instructions be sent you:

"That medical officers of the United States Marine-Hospital Service be immediately detailed for duty at Santiago, and subsequently at other Cuban or Porto Rican ports under control of the United States forces, to carry out the requirements of the quarantine law of 1893. Such officers to issue certificates and perform other duties of sanitary or other port inspectors.

"That all sanitary matters pertaining to the condition of transports and crews be placed under the jurisdiction of the medical officers of the United States Marine-Hospital Service.

"Every vessel engaged in the transport service between the United States and Cuban or Porto Rican ports to carry a medical officer of the army or of the Marine-Hospital Service, whose duty shall be that of sanitary inspector of the vessel, and who shall see that in a foreign port no person is taken aboard liable to convey yellow fever; to keep the crews of the transports under surveillance, and on the return voyage act as sanitary inspectors.

"That there be placed at Santiago and every chief port where practicable a receiving ship for the reception of those who take passage for ports in the United States. This ship would be practicably a detention camp and quarantine station, and passengers seeking homeward voyage would be taken from this vessel after they had undergone a period of observation and disinfection of their effects.

"Surgeon Carter, United States Marine-Hospital Service, has been appointed sanitary inspector at Santiago."

The following orders were sent out by the adjutant-general to General Shafter regarding

the embarkation of troops at Santiago for Montauk Point:

"Recommendations of surgeon-generals of army and marine hospital service as follows should be accomplished as far as practicable:

"1. Hold troops assigned to a transport under observation three to five days, in separate camp not infected by fever.

"2. Surgeons to inspect same twice daily, isolating promptly suspected cases.

"3. Bathe and freshly clothe or sterilize old clothing of troops at the beginning of period of observation.

"4. When not possible to detain troops in camps under observation, bathe them and freshly clothe or sterilize old clothing before embarkation, excluding, after searching inspection, suspected cases.

"5. Yellow-fever convalescents or suspects should not accompany healthy troops.

"6. No equipage nor personal effects capable of conveying infection should accompany troops unless disinfected by steam or otherwise.

"7. Arrange to embark by daylight under a careful supervision of surgeons, who will control sanitary conditions of troop ships en route.

"By order of the Secretary of War."

At the recent convention of homeopaths at Omaha, Dr. E. C. Price, of Baltimore, said: "The homeopathic practitioner of the quarter of the century preceding the one in which we are now working was not only not instructed in any method of prescribing drugs but the homeopathic, but he was taught to abhor all aid that could not be traced to alleged homeopathy and to homeopathy alone. As a result the practitioner either became a hypocrite—secretly adopting other methods than the homeopathic—or he became a fanatic exclusivist, or he openly and honestly acknowledged his application of all things which appealed to his judgment, and thereby earned from his fanatical brethren the unjust stigma of "mongrel." At the present time, owing to the general tolerance, the practitioners of the last kind far outnumber the others.

"We have outgrown sectarianism. We have at last reached a high ethical plane from which we can proclaim the fact that we are physicians who reserve to ourselves the right to draw from every field of mental achievement that which will aid in the healing of the sick, whether these contributions are from mechanics, from chemistry, from bacteriology, or from the charmed circle of homeopathy. We believe in allopathy, in anti-path, and in homeopathy, each in its own place, and with a scientific reason for our beliefs, and we want the whole world to know it.

"The progressive physician of to-day is not an exclusivist; common sense forbids, science forbids. He can ignore nothing, he must keep everlastingly at it, hunting for some "soul of good." This good he finds in empiricism, in rationalism, and in the law of similars. This progressivism is not orthodoxy, but it is truth, and is it not truth of which we are all in search? What if in following truth we are led away from homeopathy? It matters not. Every practitioner of experience knows there are cases which demand at times certain other measures than those prescribed by homeopathy. He knows he is at all times compelled to resort to these other methods. He should, therefore, be prepared to accept such facts and be properly qualified to meet them by a studied familiarity with the circumstances and conditions of the application of all the useful methods known to therapeutics."

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EDITORIAL

DISCIPLINE AND DISEASE

IT is an unfortunate fact that the great majority of human beings when seeking an explanation of any calamity invariably turns toward passion in preference to judgment for light. In this respect history repeats itself again and again without any apparent good effect. The lessons of to-day are lost on to-morrow because selfishness or anger precludes the possibility of cool, scientific reasoning. Explanations will not be tolerated that deviate an iota from the one that selfish desire or intense hatred makes people wish in their hearts may be established as true. When a man has a purpose to serve in presenting and supporting a false explanation he hates and despises cool judgment in direct proportion to its ability to upset his, to him, much-desired theory. This is indeed a sad commentary on frail human nature, but as facts are stubborn things and as this is a fact it will not down at any man's bidding.

We are at present brought face to face with the evil consequences of this human weakness in the reports that reach us through the public press from day to day of the conditions of our soldiers and of the unsanitary state of the camps they occupy. It is safe to say that fully fifty per cent. of all we read at present on such matters is either gross exaggeration or manufactured falsehood. Newspapers seldom get things just straight, even when they have no other ob-

ject before them than that of converting an ordinary event into a sensation. Reporters know that their bread and butter depends upon their skill in coloring up trifling events to make them appear as if important. To send in anything that is tame, except in times of great dearth of news, is to have it dropped into the waste-basket by the editor, and thus to lose time and effort. A premium is thus constantly placed upon skilful coloring and plausible exaggeration. When a political purpose or personal grudge is to be gratified, or when there is money at stake, the most trifling events are inflated into the semblance of great crimes. Under such circumstances the only possible way of sifting the grains of truth from the mass of distortion is to compare a large number of papers of opposite affiliation and ascertain in what particulars they substantially agree.

If one could believe the tales now told concerning the sufferings of our soldiers and could accept the explanations advanced as the cause of that suffering, there would be no escape from the conclusion that a large number of the head men in the War Department deserve execution as murderers. Of course none of the newspapers would be so bold as say this outright, but they do say what is its equivalent. On every hand we find the tendency to make every report as sensational as possible and to cast the blame on some rival or enemy. Rival railway companies jealous of their competitors who have been lucky enough to secure camps in places that brought busi-

ness, have had the papers they control denounce these camps. The Red Cross Society has done its best to throw the blame of all mishaps upon the Surgeon-General and his associates. The army surgeons have sought to besmirk the Red Cross Society with as much of the blame as possible, while some of them for political reasons prefer to think that Secretary Alger or General Shafter should carry the blame. Now that the election-time is drawing near mere sensationalism is giving way to political expediency, and the synthesis of all the so-called horrors is being beaten into good campaign arguments against men who it is feared might otherwise remain in power. Every attempt to explain the situation seems to be tinctured more or less with passion or prejudice. Even the medical journals have gone into the inky war, some to defend the Red Cross Society and some to maintain the *esprit de corps*, while in the meantime Christian charity is often forgotten.

It is our deliberate opinion, after a careful study of all available facts, that while there may have been a few cases in which individuals were directly and unequivocally to blame for the suffering of our soldiers, in the great majority of reliable instances no one man or set of men deserves to be blamed therefor. If blame must be placed somewhere, it should be placed upon the whole nation. Taking the facts so far as camp-life in the U. S. is concerned, and divesting them of all exaggeration it is easy to see how every one of them is the inevitable result of the nation's failure to do its duty by its citizens in the sanitary care of its streams and lakes, together with the lax discipline of our men. Regarding the events at Santiago, the hurry and lack of discipline were the two chief factors. From the disrespect of "Young America" toward old people and even parents to the inability

of the adult to establish a habit of obedience to the orders of superior officers, we have an illustration of a national weakness that may yet prove our undoing. The habit of disobedience makes us inclined to disobey every order the full significance and necessity of which we cannot comprehend.

The meanest private feels that he has a right to criticize the commander-in-chief of the army or any other officer. This we have seen in the refusal to do as the Surgeon-General ordered regarding the drinking of only boiled water and the avoidance of other unsanitary acts. Few, if any pretended to obey the command. General Merritt, General Miles, Colonel Roosevelt, and all the principal officers at Santiago except General Shafter have set examples of insubordination to their men. The signing of the "round-robin" by Shafter's officers was merely a sop to the Cerebus of discipline while they were in the act of casting it to the winds. It is questionable whether any of them felt much fear in the matter and merely put their names in a circle instead of a straight line so as to assume playfully the semblance of fear. Colonel Roosevelt at least would not have hesitated at having his name come first. Had there been complete discipline and complete obedience to orders, there would not have been such a death-rate in our camps.

TYPHOID FEVER IN OUR CAMPS

THE presence of typhoid fever among our soldiers and particularly among the volunteers from regions where this disease rarely occurs is exactly what should be expected *a priori* from our knowledge of the nature of immunity. To say, as one medical journal has done, that it is a serious reflection upon the sanitary authorities who are responsible for the health of these camps, seems to betoken a lack of appreciation of some well-known

facts. It is impossible for some men to leave their homes and expose themselves to the germs of typhoid by drinking the hydrant-water of Philadelphia or New York without taking this disease. The people of these cities have become immune to the average virulence of the water they drink, but it is dangerous to many strangers. All over the United States there are regions where the typhoid bacillus if found at all is found in so attenuated a condition that it cannot give the disease even in a form sufficiently distinct to produce immunity. Let people from these regions move to places where the germs are more abundant, and they will be almost certain to take the disease.

In calling together an army of men it would be very strange if there were not multitudes among them very susceptible to typhoid. It is precisely the same with malaria and every other contagious or infectious disease. Why then should medical men express any surprise when an unusual number of cases occur under such conditions? Their presence in no way indicates that the camp is in an unusually unsanitary region. It merely shows the great susceptibility of the men. Is it reasonable to suppose that every camp that has been chosen was selected because it was a pest-hole of disease? Surely by mere accident, if in no other way, some one of our camping-grounds should have had as good an average of healthfulness as the cities surrounding them. Has any one the hardihood to claim that the choice made in every instance was a diabolical plot to kill off our men? Every camp has been condemned by the sensation-loving press, and solely on the ground that cases of malaria and typhoid fever had increased in them. It is quite likely that there would have been far more deaths from these causes if quarters in New York city had been given to the same men.

It is the immunity of the average citizen of New York to the small doses of germs contained in his milk, water, and ice that enables him to remain healthy in their presence. Strangers from typhoid-free regions, however, suffer when they come here. When New-Yorkers go where there are more or more virulent germs, they come home with the disease because their immunity was not sufficient to protect them. This feature of relativity is usually forgotten in considering cases of this kind.

Our experience during the present war in no way departs from our experience during the Civil War. Then the number of deaths from disease was 186,216 as against 44,238 killed in battle. One man out of every thirteen died of disease. Then the great scourge was likewise typhoid fever. It has been shown that the total number of deaths from disease during the present war is no greater than the average for the same number during the same time in the country at large. Why then this cause of alarm and abuse? The reply to this made by a New York daily that is fond of sensations is that the figures for the whole country include the aged and chronic invalids, while the army was made up of the healthiest members of the community. Typhoid fever, however, is no respecter of the healthy. Indeed it is healthy young folks that it is most likely to attack. Our young soldiers were of an age that rendered them more susceptible, and when they came from regions where they could not acquire a particle of immunity to regions of average American healthfulness their attack was almost inevitable. This lack of immunity more than counterbalances the presence of the aged and chronically ill in the figures from the nation at large.

That so many of our streams are polluted by typhoid germs is a fact to be deplored. That this makes it impossible for our

armies to find a suitable region where the water is pure is not the fault of the Surgeon-General or of the Department of War, but of the stinginess of the whole nation in refusing to give freely enough of its money and force enough in its legislation to compel proper sanitation. Camp Wikoff is in for its share of the general abuse. Soldiers were carried there sick and many of them came during the period of incubation of their disease. All of these are being charged to the unsanitary condition of the region. The utmost unfairness is being pursued by the sensation-mongers. The so-called investigations are all forced into the rut desired by the parties who pay the bills. A sensation is wanted and paid for. Besides it favors the political preferences and ambitions of the investigators and of the journal that pays them. We have not yet heard of their resorting to the methods pursued in trying to get Camp Miami condemned. There the co-operation of petty officers was secured and the men detailed to be sick. One soldier testified that he and twenty of his comrades were, all at one time freed from duty so as to swell the list of sick in the camp to get it condemned although there was nothing the matter with them.

In Camp Wikoff some excuse was given the press for its attack in the refusal of the government to receive the distilling- and freezing-plant that was offered free for the use of the soldiers. It is possible that some one thought that this would be a good method of retaliating upon the Red Cross officers for the accusations they made against Camp Alger and against the medical department at Santiago. If this was the motive it was a very short-sighted one. The attack of the Red Cross officers was entirely wrong and the retaliation was equally wrong. It is a very great pity that such a quarrel ever began. The army

surgeons, so far as we have been able to ascertain, started it in attempting to force the society to give up its characteristic designation. Knowing as we did the strength of the Red Cross Society we felt as if Surgeon-General Sternberg and his associates were unwittingly going to commit political hari-kiri. These two should be allies and not foes, and certainly the Red Cross Society can command votes enough, if it tries, to make it uncomfortably warm for a President, let alone a Surgeon-General. General Miles knew what he was about when he appointed Miss Chanler, the New York Red Cross millionaire nurse, on the regular service at Ponce. The Red Cross should receive the hearty support of the surgeons and neither their condemnation nor mere toleration. The surgeons should be respected by the Red Cross officers and everything possible done by Miss Barton to heal the present breach. She should never ask them to permit her to do anything that is likely to weaken the already too weak discipline.

THE TROUBLE AT SANTIAGO

IF we pause long enough to reflect upon the haste with which the attack on Santiago was decided, the conditions that obtained there, and the makeup of our army, we shall see at a glance the utter recklessness, if not wickedness, of the yellow journals in trying to blame any one other than themselves for the terrible results that followed the surrender. They urged the public to bring pressure upon the Secretary of War and the President so as to compel these officials to besiege Santiago. It seemed the President's intention to delay the attack until fully prepared to make it properly, but they told the public that he was going to delay everything till after the November elections. Some of them resorted to the vilest denunciation. But for the clamors

of the public such untoward haste would not have been resorted to. Preparation for the transfer of the army and its assignment to duty is not such child's play as some apparently sane people think it is. The detail of such a task is simply bewildering and the avoidance of mistakes impossible. There was not a thoroughly disciplined army to move where every man knew his duty and by sheer force of habit did it. Instead of this there was a mass of volunteers mixed with regular soldiers. There were duties that no one had ever done and that no one could foresee and prepare for. There were divided responsibilities that had never been drilled into harmonic workings. Conditions arose that no one knew whose duty it was to attend to.

When the Concho and Seneca left Santiago the surgeon whose duty it was to look after their supplies was suddenly taken down sick and unable to attend to his duties or to assign a substitute. General Sternberg was in Washington and of course could know nothing of it. The landing-place was a dangerous one and the ships laden with soldiers and with stores had to come one at a time. This necessarily caused delay. Small boats could not be procured. Land-transportation was hindered for lack of pack-animals. It was necessary to unload vessels only partly so as to have some of each kind of supply on hand. After thus giving up part of its cargo each vessel had to move out of the way so as to let another take its place. In the pressure of events the quartermaster naturally gave precedence to the unloading of arms, ammunition, and soldiers over that of medical and surgical goods or delicacies for the sick. The alternative was placed before him of hindering the army and defeating our cause or of hindering our surgeons and bringing extra suffering on the wounded and sick. He chose the latter

not by completely cutting off the medical supplies, but by limiting the amount put ashore. Adjutant-General Corbin, in speaking of the affair, said: "Hot weather, incessant rush, rough food, no shelter, malaria, yellow fever, all pressed upon the men who were becoming daily exhausted. But they did their work. If they had waited until the tentage had come up, the commissary was in perfect order, and the medical supplies at hand, and hospitals ready, Toral would not be in our hands and his troops loading for Cadiz."

The attack of yellow fever that followed the siege, and the panic that followed it, culminating in the celebrated "round-robin," shows clearly that had the medical and surgical supplies all been landed and transported to the camp, while the things needed by the army in making the attack were held back, or had nothing been done till everything was ready, our men could never have taken Santiago. They would have been too sick to fight. Under the circumstances here enumerated it is hard to see where there is any justice in the attacks upon General Sternberg by the newspapers or upon General Shafter by some medical journals. There was an abundance of medical supplies and this the surgeons at Santiago evidently knew, for although short of stores they never sent to General Sternberg for any. They knew it was beyond his power, as things were, to get any to them. The soldiers, too, were generally aware of the true situation, for they bravely suffered on without proper supplies, yet made no complaints. It remained for the newspapers to find out that they were badly treated, and to tell them so. If the army had not gone to Santiago until the rainy season had passed it would have been better prepared for the struggle. As it was rushed there among deadly conditions it did the only possible thing it could

do to avoid complete annihilation. It is singular how the newspapers seek to run the War Department, to create insubordination among the men, to compel obedience to their wishes by starting popular pressure to bear upon Congressmen, Senators, and Cabinet Officers, and then, after getting what they sought, turning round and blaming those who gave in to them for the legitimate consequences. Now they are clamoring for the disbandment of the volunteers and seem fairly in the way to secure it. If they do and if as a consequence typhoid and yellow fever are carried into regions where these diseases have not heretofore existed, the very same papers will be the first to find fault and condemn those who were willing to listen to their demands. The season is fortunately now so far advanced that we need have but little fear of yellow fever, but there is always great danger from the spread of typhoid by the scattering of an army. The sick soldiers at Montauk Point who were thought to be suffering from malaria are found by Dr. Welch, of Johns Hopkins University, to be sick with typhoid fever, which must have been contracted at Santiago. The blood-examination showed the typhoid bacillus and not the plasmodium of malaria.

In Diabetes Mellitus

Dr. Limousin proscribes (*Cent. f. d. ges. Therapie*, 441, 1898):

Uranium Nitrate.....	0.4 (grn. vi)
White Wine	300.0 (℥x)
S. Take from one to three teaspoonfuls a day.	

R.

An Application for Sycosis Parasitica

The *Cent. f. d. ges. Therapie* for July recommends the following ointment:

Potass. Carbon.....	1.0 (grn. xv)
Olive-oil.....	10.0 (℥ijss)
Zinc Oxide.....	15.0 (℥ss)
Starch	15.0 (℥ss)
Salol.....	5.0 (grn. lxxv)
Sulphur.....	6.0 (℥iss)
Tanolin	od 100.0 (od℥ij ℥ij)
S. To be rubbed in at night.	

R.

AMONG THE EDITORS

THE COUNTRY DOCTOR

The country doctor is fast becoming a being of the past, especially in the East, where civilization has progressed so far, and where the population is so crowded. If statistics are to be believed, more than one-third of the population of these United States now live in cities, and in some States, such as Massachusetts, the proportion is much greater. New York city now contains as many, if not more, inhabitants than the whole United States had at the time that George Washington took the oath of office as President.

This progress is not only confined to cities, but the country districts have advanced as well, and, as Dr. Ellis has so ably pointed out, there is room still for some great and important needs of which the country doctor should, and probably soon will, take advantage. It is well known that of the successful men in any branch of business or profession, many of them have come from the country, and probably have far distanced the city-born creatures.

In medicine it is well known that many of the shining lights began their careers in small towns and remote rural districts, and with slight advantages and many setbacks they accomplished what too many city men, surrounded by ease and comfort, never dreamed of.

The city and country should never forget their mutual interdependence, and should always be ready to help the one side or the other. Perhaps as a fitting example the State Society, the medical and surgical faculty, has grown to be almost too much of a society for the city members. This the country members feel all too keenly, and this has hindered in time past a better representation from all parts of the State.

The country doctor is no longer now considered a man who is behind the times, but one who is wide-awake and alive to every modern advantage. Many men in small places regularly set aside a certain number of weeks each season and go to a large city to brush up on an old subject or

learn something of a new one. These men drop all work and give their whole time to the one thing in mind, and naturally learn more than the city man who attempts to keep up his practice and do some little side-work as well.—*Maryland Medical Journal*.

THE ORIGIN OF ARTIFICIAL MINERAL WATERS

Mr. William Kirkby recently published some particulars of Thomas Henry, the eighteenth-century apothecary of Manchester, whose name has long been associated with the invention of artificial mineral waters.

Mr. Kirkby, however, proves, on evidence supplied by Henry himself that this honor does not rightly belong to him. Henry translated and annotated Lavoisier's Physical and Chemical Essays, in which the history of carbonic-acid gas and the endeavors to make artificial mineral waters were fully set forth. His notes show that he had a thorough acquaintance with the subject, but they also conclusively prove that he had no idea of claiming the invention as his own. Rouelle and Lavoisier gave the credit to Venel, who was professor of chemistry in the University of Montpellier, but Henry successfully vindicates the priority of the invention for "a very worthy and learned countryman, Dr. Brownrigg (of Whitehaven)." Venel's experiments were not communicated to the Royal Academy of Sciences till 1750, and he supposed the air contained in waters which have been called "acidulous" to be common atmospheric air. But seven years before this, in 1743, Brownrigg sent a paper on the subject to the Royal Society, in which he pointed out "that a more intimate acquaintance with those nitrous airs in mines, called damps, might lead to the discovery of that principle of mineral waters known by the name of the spirit; that the mephitic exhalations, termed the choak-damp, he had found to be a fluid permanently elastic, and from various experiments he had reason to conclude that it entered the composition of the waters of Pyrmont Spa and others, imparting to them that pungent taste from which they are denominated acidulæ, and likewise that vol-

atile principle on which their virtues chiefly depend." Henry adds that "in order to ascertain a fact of so much consequence, Dr. Brownrigg took the opportunity when at Spa several years before to make some experiments for this purpose, when he had the satisfaction to find those waters pregnant with the artificial or factitious air of Mr. Boyle, the same with that of the suffocating grotto near Naples, and the same with the choak-damp of our coal-mines; for as much as this air instantly extinguished flame, and the life of those animals he enclosed in it."

In 1767 and 1768 Priestley made some experiments upon the artificial impregnation of water with "fixed air," and in 1772 he returned to the subject in the hope of being able to devise a drink that should be a prophylactic against the scurvy in seamen. Priestley's apparatus was extremely simple, and was very soon improved upon by Nooth, Parker, and Magellan (Mag'alhaens).

It was with a view to improving upon the glass machines then in use that Henry designed the apparatus described in a pamphlet the title-page of which is as follows: "Account of a Method of Preserving Water at Sea from Putrefaction and of Restoring to the Water its Original Pleasantness and Purity, to which is added a Mode of Impregnating Water in Large Quantities with Fixed Air for Medicinal Uses on Board Ships and in Hospitals, and Likewise a Process for the Preparation of Artificial Yeast. By Thomas Henry, F.R.S., and Member of the Medical Society of London, Warrington. Printed by W. Eyres, for J. Johnson, No. 72, St. Paul's Churchyard, London. MDCCLXXXI." The portion of this pamphlet dealing with the impregnation of water with fixed air, which Mr. Kirkby quotes, affords indisputable proof that Henry claimed for his apparatus nothing more than that it made it possible to prepare aerated water on a larger scale than heretofore. Thomas Henry, therefore, was a pioneer in the manufacture of artificially aerated waters, but the credit of the invention belongs to Dr. Brownrigg, of Whitehaven.—*British Medical Journal*.

CURRENT TOPICS

THE NEURON

T. L. Maddin (*Med. and Surg. Bulletin*, Vol. II, No. 8) reviews the present status of the "neuron theory." He says the present estimate of the nervous system is to call the essential factors—cells, processes (dendrites), and nerves—neurons. An individual neuron is a cell, and its dendrites, one of which is continuous as the axis-cylinder of a nerve, and is called a neuraxon, which for the most part terminates in a brush-like expansion, never in another nerve-cell. These parts constitute an individual nerve-unit. The entire structure of the nervous system is built of these nerve-units; it matters not if it is the brain, spinal marrow, or the subsidiary nerve-centers; whether it is the commissural, motor, or sensory department. The blood-vessels and lymphatics that administer to nerve-organs are united with fine interstitial areolar tissue, but the histological cement of the nervous and the homogeneous walls of the capillaries of blood-vessels and lymphatics is called neuroglia; it is the matrix of these parts, also the brush-like terminals of the individual neuraxons. This neuroglia-tissue has a higher value than a physical cement. While it subserves that purpose, it has a biological function that supplements the dynamics of the neurons. The neuraxons give off short processes or arms at right angles that have the same brush-like terminal, and it finally splits up into two or more terminal divisions. The sensory neurons may be said to start in the periphery—common sensation, muscular sensation, the retina, etc., and each quality of sensation has its starting organization in the viscera or periphery, and its afferent pathway to the sensory centers; the commissural neurons have a similar build to the motor and sensory neurons. The motor-neurons terminate in muscular tissue, either the visceral or voluntary muscles, and functionally are efferent. While the brush-like (arborescent) terminals prevail, there are other forms for terminals, according to the varying functions of the organs to which they are distributed. While the general type of neurons is the same, the anatomical, chemical, and physiological variations are very great, for every nerve-center has a molecular organization that qualifies it for the duty it is to subserve in the biological problem. In the same nerve-center the neurons are not only individual units, but are ho-

mologous; this is true alike for sensory and motor centers; the commissural neurons are the telephonic links that bind all centers *en rapport* with each other, both in reference to their work and their needs. The histological structure of a nerve-cell, to give it biological and functional activity, demands a plasma, a stroma, a nucleus, and a nucleolus; the highest and most complex part of the assimilating function finds expression here, and error in any of the factors of its metabolism will abort the physiological work of the neuron, whether it is in the pathway of assimilation or disintegration. Nature's chemical masonry in forming nerve-molecules, out of which the nucleolus, the nucleus, the stroma, and plasma are built—each after its kind—is one of the problems we long to know, but will delegate it to a coming time to weave it into the science and philosophy of medicine. It is here that the features of acquired predisposition and heredity are fashioned and perpetuated in many cases, whether it is for the health or disease of the nervous systems. Neurotic temperaments and functional nervous diseases find their special pathology in the molecular errors of construction; chorea, catalepsy, epilepsy, hysteria, neurasthenia, functional insanity, etc., are illustrations of this fact. Biological tension of sensory and motor neurons leads to explosive paroxysms of sensory and motor pathology. When the nucleus of a nerve-cell dies, the cell survives only for the time its stored force continues, for it is passing into a fatty degeneration; it can never be revived any more than a grain of wheat or any other seed can sprout after its germinal point is destroyed. Every nerve-cell (neuron), in its function of assimilation (anabolism) and disintegration (catabolism), is in a state of rhythmical motion, as definitely performed as the heart, and we surmise the visceral and peripheral end of systolic and diastolic chain of nerve-function is represented in this molecular tremor of the neurons. G.

SYPHILITICS AND LIFE INSURANCE

J. Nevins Hyde, of Chicago (*Med. Exam.*, Vol. VIII, No. 4), concludes:

1. Inherited syphilis is one of the most fatal of all disorders affecting the human race, and under the most favorable circumstances, irrespective of abortion and miscarriage, 90 per cent. of children born living subsequently die. 2. Acquired infantile syphilis is very rare, is an exceedingly manageable disease, and is one in which probably a large proportion of all

infants survive. 3. Between 80 and 90 per cent. of all adult patients affected with acquired syphilis escape its gummatous complications. 4. The percentage of patients affected with gummatous syphilis who perish is not known, but one may doubt if it exceeds 2 per cent. of the from 10 to 15 per cent. of those who suffer from gummatous complications. 5. The expectancy of life is probably not affected by coincidence of syphilis with other diseases, and the prospect that the patient with acquired syphilis will ever suffer from either stroma, tuberculosis, or cancer is exceedingly small. 6. The natural evolution of acquired syphilis in untreated cases in the adult is not in the direction of a lethal issue, but rather in the line of physical degeneration and grave complications due to involvement of the nervous system and of the bones without affecting organs essential to the continuance of life. 7. It is unfair to charge an extra risk for the insurance of syphilitic applicants otherwise in sound health and insurable, as any assumed unfavorable longevity-prospects due to the fact of infection are more than counterbalanced by the extreme improbability of death from either tuberculosis or cancer. 8. If what precedes has a fair foundation in fact, it follows that the syphilitic applicant for life insurance should be examined with a view, not so much to his syphilitic history as to his condition with relation to all the other items making up a satisfactory risk.

INFLUENCE OF WEALTH ON MORTALITY

Dr. Neefe, the Breslau statistician (*Zeitsch. f. Hyg. u. Inf. Krankh.; Med. Age*, Vol. XVI, No. 5), undertook to determine the above question. As a criterion of the means, the amount of rent paid was taken. In 1896 there died of every 1,000 living persons who paid a rent up to 300 marks, 20.7; with a rent of 301 to 750 marks, 11.2; with the rent ranging between 751 and 1500 marks, only 6.5; the average being 17.6 persons. While according to these figures the mortality of the Breslau poor-population is three times as large as that of the rich, it is in reality much larger, because the deaths not included therein (servants, journeymen, persons who died in hospitals, etc.) may be assumed to belong almost exclusively to the first class. The greatest difference in the mortality was, of course, shown by the babies; more than half of those born alive belonging to the poor-population died in babyhood, while the deaths of babies of the rich amounted to only one-sixth. S.

ORIGINAL PAPER

ODDS AND ENDS OF PRACTICAL THERAPEUTICS

By H. C. WOOD, M.D., LL.D.

NUMBER 2
STRYCHNINE

IT is a curious fact that strychnine certainly was until very lately, and probably is still, almost altogether manufactured in the United States; this growing out of the circumstance that the amount of strychnine used in the practice of medicine is a mere bagatelle compared with that which is employed upon the American frontier for the destruction of wild animals. Strychnine may therefore be considered an especially American drug, and it is fitting that the increasing recognition of its value in medicine which has come of late years should be largely of American origin. In this article I want to discuss briefly the dose that should be used of the drug; for unless it be alcohol there is scarcely any other drug whose proper doses vary so much.

Very commonly strychnine is given in too small doses to produce the effect it is capable of. One-sixtieth or one-fortieth grn. of the alkaloid is of very little value even as a simple tonic, except in persons of abnormal susceptibility. I have habitually given, for many years, the tonic dose as one-twentieth grn. three times a day, and have never seen a case in which it produced anything like serious symptoms. In nervous females such doses will sometimes cause increased nervousness, or perhaps sleeplessness. In a very few cases that I have met with, as an idiosyncrasy even the smallest doses of strychnine cause vomiting. Very frequently it is better in the use of the drug to give none of it after three or four o'clock in the afternoon, and then secure the patient from wakeful nights.

As a general and respiratory stimulant strychnine is very valuable in acute pulmonary diseases, but here in order to be effective it should be given in full dose at short intervals. One-twentieth of a grain hypodermically, every four hours, in a pneumonia or in a low fever, is only moderate dosing, and especially do the old bear

strychnine well. Their nerve-centers are evidently so hardened by the vicissitudes of years that they are only to be affected by inordinate stimulation.

A drug whose value as a strychnine-like stimulant ought to be more widely recognized is cocaine, and, in cases of severe pneumonia it is an invaluable remedy as an aid to strychnine. It is rarely in these cases wise to repeat the strychnine more frequently than every four hours; if the cocaine be given every four hours, and so alternated with the strychnine that one or the other is taken every two hours, an uninterrupted steady therapeutic effect is maintained.

I have proven by my experiments upon chloralized dogs that when the nearly paralyzed respiration is partially restored by doses of strychnine as massive as can be borne, cocaine is able to increase still further the respiratory movements without any interference with other functions of the body. In other words, cocaine and strychnine can well be used together in accordance with the theory of crossed action, that is for the purpose of securing the reinforcement of the activity of one drug at the point where it is crossed by the activity of the other drug.

A rare condition in which strychnine has seemed to me to act almost as specifically as quinine does in intermittent fevers, is that form of subacute lead-poisoning in which the symptoms closely resemble those of acute poliomyelitis; differing from them, however, in that they occur in the adult; that they involve almost the whole body, and that they attack the sphincters as well as the muscles of voluntary life. An almost universal paralysis with rapid wasting of the muscles, appearance of reaction of degeneration, and involvement of the sphincters, constitute the series of manifestations of the cases under discussion.

Another condition in which strychnine is often of the greatest service is chronic alcoholism, and especially in those forms of chronic alcoholism in which the mental symptoms are pronounced, and take upon themselves not the shape of a delirium tremens, but of a maniacal dementia; al-

though in delirium tremens strychnine is often of the greatest service.

Then, again, there are certain cases of organic heart-disease in which, in some way at present inexplicable, strychnine is of immense service. I have never been able to determine certainly from the symptoms of a cardiac case whether it was or was not one to be especially benefited by massive doses of strychnine neither in a discoverable lesion, nor yet in the symptoms themselves. But although abnormal slowness of beat does seem to be a distinct indication for the use strychnine, only by the therapeutic test does it seem to be possible to decide the relations of any individual case to the alkaloid.

In all cases spoken of in the last paragraph it is essential to give the strychnine to the point of physiological toleration or rather non-toleration. Twenty-five years ago I was in consultation in a case in which the feebleness and exhaustion following an acute pulmonic attack seemed utterly unconquerable. After the thing had been going on for some weeks, owing to a misunderstanding between the nurse and the physician, four doses of strychnine were given at one time and repeated in four or five hours. Shortly after these doses violent convulsions came on, not severe enough to urgently threaten the life of the patient, but to alarm every one greatly. The next day the patient was practically convalescent; the exhaustion and symptoms which had dragged on for weeks, under the administration of the ordinary therapeutic dose of the drug and of other tonics, nursing, stimulants, etc., was practically put an end to at once by the toxic dose of the strychnine.

As illustrative of the matter under discussion, I may mention two cases which have occurred in my practice during the past spring. One was the case of a saloon-keeper, who was brought to the University Hospital from another hospital, where he had been treated for six or eight weeks for alcoholic insanity or dementia; the man's physical condition was that of chronic alcoholism, while mentally he was a jabbering idiot, giving no evidence of knowing where

or who he was, talking incessantly and irrationally. He was put in bed, where he was kept by the nurses during the day and by straps at night, and the order given to the Resident to administer strychnine at intervals of six hours, hypodermically, increasing as rapidly as it could be done. This treatment was very earnestly and very boldly carried out by the doctor; within two weeks the man was taking three-quarters of a grain of strychnine a day hypodermically, was rational, and practically convalescent.

The second case was seen in consultation in private practice. Mr. — was a man of about 64 years of age, suffering from mitral insufficiency of which the origin was in an obscure and distant past. The valvular lesion was, however, known to have existed for twelve years, and probably went back nearly thirty years to an acute attack of rheumatism. The patient had paid no attention to himself until about five months before I saw him, when he had a sudden anginous attack so severe that he lost consciousness and was pronounced by his physician dead. From that time on he had had at short intervals severe attacks of heart-failure, not attended with much pain but with excessive weakness and breathlessness, and a badly failing, very slow pulse, the rate usually being about 50. When I first saw him he was in bed, where he had been for weeks unable to feed himself without bringing on an attack; life being maintained apparently only by the most rigid quiet. The cardiac murmur was distinct; the diagnosis absolute except that there was some doubt whether there was in addition to the insufficiency also stenosis. The impulse was exceedingly weak, the pulse very irregular and feeble. Digitalis and strophanthus both had been tried. The digitalis treatment, however, was thoroughly re-tried, the drug being given at various times in small and in enormous doses, in every form and method of administration, and always doing harm rather than good. Strophanthus was then tried, and while it seemed to suit the patient a little better than did digitalis, accomplished nothing. The patient was then put upon the use of strychnine, which was rapidly increased and given

both by the mouth and hypodermically. At one time Mr. — was violently tetanized, owing to the nurse unwittingly giving a hypodermic injection a few minutes after his wife had administered a dose of the strychnine by the mouth, but the symptoms readily yielded to remedies and the paroxysm seemed to do good rather than harm. During many weeks the object of the treatment was the keeping up of a perpetual chronic poisoning by strychnine. After Mr. — had so much improved that it was considered safe to allow the professional nurse to leave, the strychnine was given by the mouth under the supervision of his wife.

A solution was made, one minim of which represented one-sixtieth of a grain of the alkaloid, and for weeks together eight minims of this solution were taken six times in the twenty-four hours, that is during the twenty-four hours forty-eight-sixtieths (4-5ths) of a grain of strychnine were given by the mouth. Almost the whole time there was pronounced rigidity of the back and limbs, with markedly excited reflexes. The patient did not seem to become accustomed to the use of the drug, and after some weeks this condition of rigidity was so irksome that the dose was reduced to half a grain of strychnine a day. From the very beginning of the strychnine treatment the effect upon the circulation was very pronounced, and now Mr. —, who before the treatment had been unable to turn himself in bed without bringing on an attack, gets up, dresses himself, goes about the house and up and down stairs at will, moves his chair from one side of the room to the other, and lives a comfortable though still a semi-invalid life. His pulse is fairly regular and strong, and for several months there has been no attack of cardiac failure.

Whenever strychnine is being pushed very rapidly and actively it should be given hypodermically. The maximum effect of such a dose is probably felt in about twenty minutes after its administration, and its influence probably lasts six hours, although it may be considered to be nearly gone at the end of four hours.

SELECTED PAPER

IS THE WORK OF THE NEURON OF AN ELECTRICAL NATURE?

By JULIUS ALTHAUS, M.D.,

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The term "Neurône," which was introduced by Waldeyer⁽¹⁾ in 1891, has, through its pregnancy and simplicity, rapidly gained civic rights in anatomy and physiology as well as in clinical medicine. The ever-fresh veteran Kölliker⁽²⁾, who resumed his researches with renewed zest, as soon as the introduction of Golgi's method and its perfection by Ramón y Cajal had opened up a new vista of the finer anatomy of the nervous system, does not like the term "neuron," and has proposed in its place the words "neurodendron" or "neurodendridion." Yet these latter terms, although perhaps more descriptive and significant than "neuron," have remained still-born, no doubt because they are too long and cumbersome.

The neuron, then, consists of three parts, namely, the nerve-cell, the axon, and its collaterals, and the protoplasmic processes, or dendrites. The cell with its dendrites is assumed to be the perceptive and impulsive element, in which the nervous force is generated; while the axon with its collaterals plays the part of the conductor, by which the force is transmitted either to other cells, or the terminations of sensory spheres, or to contractile elements.

The nerve-cell has a far more complicated structure than was formerly believed. Nissl⁽³⁾, to whom we owe the most important researches on this difficult subject, has distinguished eight separate types, which differ in organization, and represent different cellular functions. "Nissl bodies" are certain stainable parts in the protoplasm of the cell—its chromophile-substance—which assume the form of clods, flakes, or spindles, and are commonly, although somewhat incorrectly, called *granula*. When stained with methylene-blue, they give to the body of the cell a mottled appearance, like that of a tiger's skin. It is generally acknowledged that, of all the different parts of the neuron, the *nucleus of the cell* is the most important; for the nucleus has a paramount influence upon the formation, metabolism, growth, and multiplication of the cell; and in unicellular organisms on its very existence. The nucleus also contains differentiated substances, namely, a stainable external layer,

or wall; a relatively scanty framework; and accumulations of framework-matter, in which there are generally one or several nucleoli, contained in an apparently homogeneous nuclear juice.

If a nerve-cell be poisoned or injured, or separated from its axon, striking and typical changes can be shown to occur in the cell within twenty-four hours, namely, a swelling of the cell-body, and granular disintegration of the chromophile-substance, which loses its sharp outline and its property of becoming stained; and certain further changes occur in it later on, which can be predicted with certainty. On the other hand, faradization of the cell will enable it to receive more coloring matter than before; and cells which have appeared pale have, under the influence of the faradic current, shown to become deeply stained. Injury to the cell may be recovered from as long as its nucleus remains intact. Nerve-cells are, from the very beginning and throughout the further course of their lives, distinct and independent individuals, which have no other communication with each other than by contact, and do not anastomose.

According to function, recent research seems to have established the fact that there are three different types of cells, namely, first, the motor-cell in the anterior cornua of the spinal cord, the motor nuclei of the bulb, and Purkinje's cells in the cerebellum; second, the sensory cells in the ganglia of the cranial and spinal nerves, the olfactory cells of the Schneiderian membrane, certain retinal cells, and cells of the terminal sensory nuclei in the cord and brain; and, third, the pyramidal cells of the cortex, to which the intellectual phenomena appear to be bound. The predominance of one or the other set of these cells appears to be connected with the scale of animals, as far as intellectual, sensory, and motor functions are concerned; and this would likewise apply to different individuals of the same species. Thus we know that animals which have a very large size, and therefore a bulky brain, are not for that reason always the most intelligent of their kind, as the gray matter may in them be chiefly composed of psychomotor cells, and such as receive sentient and sensory currents, while only a comparatively small space of the cortex may be left for the association-cells, which form the anatomical base of the intellectual activities of the brain. In the same way, one human brain may be of equal size and bulk with another, and yet the intellect of the two persons concerned may be very different.

From these considerations it naturally

follows that the *mere weight* of the brain, upon which so much stress was formerly laid, and also the intracranial capacity, which Sir William Turner⁽⁴⁾ has recently discussed, are not of such transcendent importance as was at one time imagined. The average weight of the male European brain is from 1300 to 1450 gme., and that of the female brain somewhat less. It has, however, often happened that unusually heavy brains have been found in persons who had been very insignificant during life, while in highly intellectual men the weight of the brain was somewhat under the average. A great painter, or sculptor, or musician, or scientist, or lawyer, or doctor, may have certain territories in his cortex highly developed, without a correspondingly large amount of nerve-matter in other areas. His entire brain may therefore possibly weigh less than that of a butcher or prize-fighter, whose psychomotor area may be exceedingly heavy. Gambetta's brain, which showed an amazing development of Broca's convolution, was altogether lighter than that of other persons whose names have never been heard of in history.

With regard to this point, Perls has made the interesting observation that in a considerable number of great men a hydrocephalus would appear to have existed in infancy, and to have disappeared later in life. He concluded from this that in a skull which had become dilated, the eventual growth of the brain would meet with less resistance than in an ordinary healthy skull. It is well known that Cuvier and Rubinstein had in infancy suffered from hydrocephalus, and the brains of both of these great men were found after death to be unusually heavy. A moderate degree of hydrocephalus in infancy would therefore appear to be a rather desirable possession.

1. THE AXON.—The second constituent of the neuron is the axis-cylinder, or principal nerve-fiber, or nervous process, or neurite, or neuraxon, or axon. This may be motor, sentient, sensory, or sympathetic, and constitutes almost invariably a single long nerve-fiber which proceeds from the cell, and, after passing on for some distance, terminates in a network of very fine branches, or terminal trees, or collaterals (Fig. 1). The axon looks like a thread of black cotton on a white ground, and differs in width and length, according to the longer or shorter course it has to pursue.

The differentiation of the axon increases proportionately to the higher position of the animal in the ascending scale of creation, being plainly perceptible in a primordial form in the invertebrates, and more developed in the fishes and reptiles, while a

full network is only seen in the highest vertebrates. It appears to be a soft but solid formation, consisting of fibers and a homogeneous intermediate substance, which Kölliker has termed *neuroplasma*, and Waldeyer *axoplasma*. Leydig and Nansen consider that the axon exists in a liquid condition.

While Golgi⁽⁵⁾ and his pupils consider that there is a kind of general fine nervous network in all the different layers of the gray matter, which receives the expansions

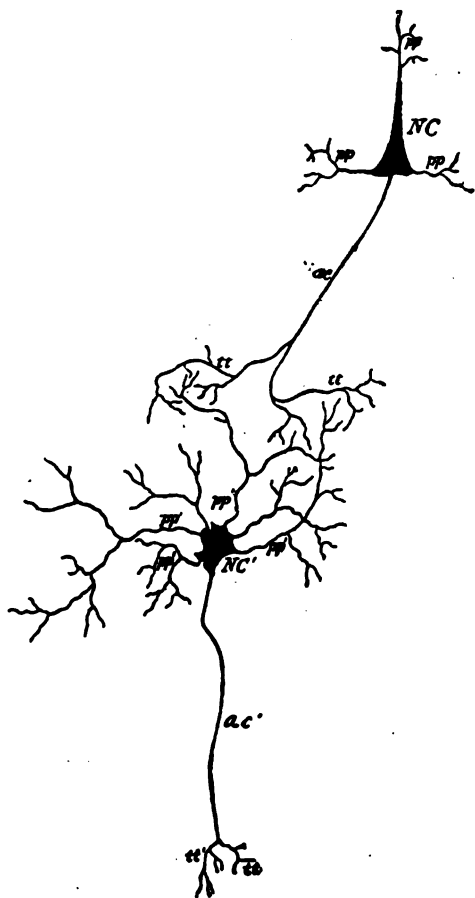


FIG. 1.—The neuron. Pyramidal cells from the cortex (*NC, NC*), from which proceeds a single axon (*ac, ac*), dissolving into "collaterals" or "terminal trees" (*tt, tt*), and numerous "dendrites" or "protoplasmic processes" (*pp, pp*).

of the nerve-cells and sends forth sensory nerve-fibers. His⁽⁶⁾ was the first to lay stress upon the independence of the central nerve-cells from each other, and the free termination of sensory fibers in the white matter, which he had observed in his researches on the development of the fetus. It was, however, Ramón y Cajal⁽⁷⁾ who succeeded in showing that this also obtains in the nervous centers of completely developed animals. It appears, then, that whereas Golgi had supposed the existence of a network, the terminations of the axons

are in reality free. There is no network, but a dense conglomeration, the numerous constituents of which are abundantly crossed and interlaced, but nevertheless entirely independent of each other, and never anastomose. This conglomerate has been termed *neuropilema* by His, and may be compared to a primeval forest, the impenetrable thicket of which consists of densely intertwined, yet essentially separate individual trees and branches. Thus the connection or nervous elements is entirely one of intimate contact, which is as efficient in a physiological sense as actual continuity of matter would be. The termination of the nerve is marked by a special thickening or

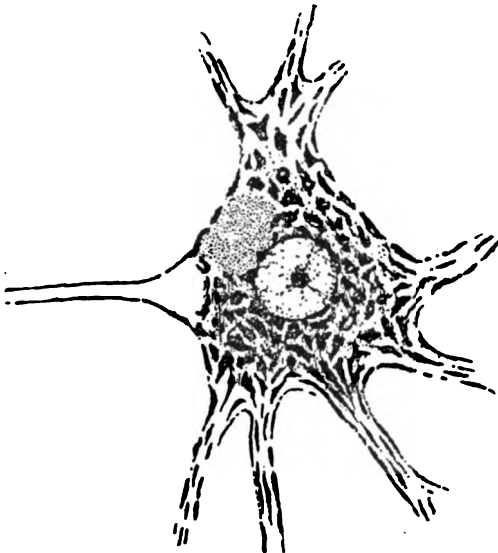


FIG. 2.—Large motor nerve-cell from the anterior cornu of the cord, showing nucleus with its nucleolus, "Nissl bodies" in the protoplasm or body of the cell, a number of dendrites, and a single axon.

clump, the *cone d'accroissement* of Cajal; and wherever a fiber is seen to end with such a clump, this may be taken as its definite termination. Intimate contact rather than actual continuity has long been known to be the mode of action of the terminations of the motor-nerves in the muscles. Lenhossék⁽⁷⁾ has laid stress upon the point that the new theory, according to which the path of conduction is everywhere formed by a number of neurons, which, like the links of a chain, only join one another by free contact, and are yet independent in a certain sense, renders all our ideas of the actual way in which the work of the nervous system is accomplished much more simple and easily intelligible. Waves of energy do not pass in continuity, but cease in their original form at the terminal trees of the first neuron, whence they proceed to act by induction, leading to a certain change in the second neuron, which is in contact with

the first, yet without the action being identical. Each unit or neuron is therefore able to alter the nerve-current in a way peculiar to itself, by induction; and this appears to correspond much better to the complex character of nervous work than to assume an uninterrupted path, carrying an impression unchanged all the way from beginning to end.

How is this nutrition of the axon effected? It appears to be carried on in a twofold way, namely, partly from the neighborhood, and partly from a distance. The fiber certainly possesses, at a certain stage of development, numbers of blood-vessels, from which nutritive material must be drawn for the axon, and thrombosis or embolism of which are known to injure the function of the nerve-fiber. The principal trophic influence, however, is given to it by the nerve-cell from which it starts. Waller⁽⁸⁾, sen., showed many years ago that when the axon had been separated from its cell, degeneration takes place in the former, which begins at the place of injury, and eventually causes the whole of the separated fiber to perish (descending or cellulifugal degeneration), and that whether the fiber be afferent or efferent. Connection with the nerve-cell is therefore indispensable for the integrity of the axon (*Waller's law*). Goldscheider⁽⁹⁾ has recently started the theory that there is a real transport of some substance into the axon and its most distant parts from the cell itself, and that this substance, which he assumes to be a ferment, enables the fiber to assimilate the nutritive material which is absorbed by it from the neighboring blood-vessels.

The trophic action of the nerve-cells on the axon does not appear to be exerted quite equally in all parts of the latter, but diminishes as the distance from the cell increases. Strümpell⁽¹⁰⁾ has drawn attention to the fact that in toxic paralyses, such as arise from poisoning by lead, alcohol, the organic toxins, etc., peripheral neuritis is apt to appear in the parts which are at the greatest distance from the nutritive center, that is, the anterior cornua of the cord; and that these cells themselves only appear to suffer in extreme cases. Again, in degeneration of the crossed pyramidal strands, owing to affection of the pyramidal cells of the cortex, the morbid process begins at the lowest portion of the cord, and thence progresses further upward, but is arrested in the bulb.

Conversely, the integrity of the cell itself is likewise dependent upon a normal condition of the axon, injury to which will damage the cell. Marinesco⁽¹¹⁾ has shown that in persons whose limbs have been

amputated, the large cells of the anterior cornua corresponding to the removed parts, begin to waste after a time, and eventually perish altogether. This degeneration may also affect the anterior roots and posterior columns, and peripheral injury of the motor-nerves may thus lead to ascending degeneration of the central parts. This phenomenon occurs in direct contradiction to Waller's law, and probably escaped Waller's attention, because at his time the methods of examining the nervous structures were still in their infancy. With our present more refined modes of investigation, Nissl⁽⁸⁾ was enabled to ascertain that even a few days after division of the *portio dura*, its nuclear cells in the bulb will begin to degenerate, while the nucleus shows a tendency to approach the periphery of the cell too closely. The further course of things appears to depend upon the circumstance whether the peripheral end recovers or remains damaged. In the former case, which occurs habitually when only a small portion of the nerve has been excised, the central cells will likewise recover; while, when a large piece of a nerve has been removed, and the axon is therefore permanently destroyed, the central cells will waste away altogether. A singular fact is, that the central end of the nerve is also found to waste under these circumstances, but much more slowly than the peripheral one; and this is no doubt owing to the slowly progressive destruction of the cell which constitutes its trophic center. Cellulipetal changes of this kind may possibly be due to the circumstance that, after the connection of the cell with its terminals has been interrupted, the usual physiological stimuli, whether voluntary or reflex, and which promote nutrition, do no longer act, so that the cell wastes through the loss of these latter.

2. THE MYELINE SHEATH.—The special function of the nerve-fiber in the vertebrates only begins when the axon is surrounded by a normally developed medullary or myeline sheath, and the latter is therefore indispensable for the functional activity of the nervous mechanism in those animals whose nerves carry myeline sheaths at all. Changes in, or atrophy of, the latter, lead to grave functional disturbances in the nervous system, and there is a direct proportion between the development of the brain and the progress of myelination.

The masterly researches of Flechsig⁽¹²⁾ on this subject have shown that certain fibers and sets of fibers, which in the adult are so inextricably welded together that they seem to be identical, may be plainly distinguished from each other at certain

phases of embryonic life, since some of them are then still naked axons, while others have already become clothed with a sheath. The lower level of the brain, namely, the bulb and pons, is completely developed at birth, but the infant enters the world with immature hemispheres, the fibers of which are still unmyelinated. The infant, therefore, resembles Goltz's dog, from which the hemispheres have been removed; and there are only physico-chemical processes going on, which are quite devoid of any mental character. When the infant's physical wants are satisfied by breathing and taking food, it relapses into unconsciousness, and an apparently dreamless sleep. At that time of life there appears to be an almost total absence of lecithin, which forms the most important constituent of the adult brain.

Matured bundles of fibers are, when stained with hematoxylin, seen to course in the newly born infant together with immature fibers which do not take any staining, and consist simply of transparent glass-like axons, which can often be followed up for a very considerable distance. After the fibers of the bulb and pons have become matured, development is seen to set in in those parts which constitute the *sensory centers*. Conducting paths are thus formed which connect sentient parts of the interior of the body, the muscles, and the organs of sense, with the gray cortex. The sensory areas are thus seen to be the cells where the motor paths originate; showing that there are *no purely sensory nor purely motor areas in the cortex*. It is only after these sensory paths have become completely built up and myelinated, that a new development is seen to spring up in that much larger portion of the hemispheres which Flechsig has called the *association or mental centers*, and which have remained immature for several months after birth.

Ambronn⁽¹³⁾ has recently given us a new excellent test for the progress of myelination, in the use of the polarized light. This test has the peculiar advantage that it does not, like osmium and hematoxylin, alter the structure of the medullary sheath; and it shows that this structure, in its course of development, undergoes definite changes in color. The non-myelinated fibers and the connective tissue are by this means shown to be of a violet, indigo, and blue color; while, in proportion as the fiber becomes myelinated, the color gradually changes to purple, red, pink, orange, yellow, and white. The thoroughly matured myeline sheath eventually appears as a brilliant yellowish-white fiber. The peculiar color of the myeline sheath, when fully matured, ap-

pears to be owing to the presence of lecithin, which is absent when the sheath appears bluish-green, and gradually increases in quantity as the changes in color, as above mentioned, become established. Besides lecithin, which is the most important constituent of nervous matter, the sheath also contains protagon, cholesterin, and neurokeratin.

What is the object of the myeline sheath? It is unquestionably intended to serve as an insulator, so that electric currents may be conducted along the axon without diffusion. The resistance to passage is five times greater in the transverse section of the myelinated nerve-fiber than in its longitudinal section; so that the nerve-current will naturally take the easiest way, and run along the longitudinal section. Myelinated fibers can therefore not act upon each



FIG. 3.—A Purkinje's cell from the cerebellar cortex of a kitten, fifteen days old, with numerous dendrites arising from the upper portion of the cell.—After Cajal.

other, or upon nerve-cells, and they are likewise unable either to receive impulses from unmyelinated fibers and dendrites, or to respond to them. The typical way of conduction of cell-power is therefore through the axon, which is in intimate connection with the cellular protoplasm; and thence the stimulation is transmitted by all myelinated axons, without there being the possibility of transmission to neighboring parts of the nervous system. Transmission is only possible where the myeline sheath disappears, and the axons become free, naked, and uninsulated.

In the *peripheral terminations* of the sensory organs matters are so arranged that the terminal ramifications of the axons are naked, *i. e.*, devoid of myeline. Being thus unprotected, they are enabled to receive impressions from external stimuli. In order, however, that the propagation of

such stimuli may take place in an orderly manner, the fibers are in their further course insulated against external influences; and this condition is only fully attained when the myeline sheath has become matured.

The *central terminations* of the sensorial organs are arranged on a similar plan. There, also, it is necessary that the last terminations of the axons should be devoid of myeline, and therefore able to transmit the stimulation, which has up to that time been insulated, to the dendrites of the cortical cells, and the second intracerebral conducting path originating from these cells.

The terminal ramifications of the *motor-nerves* in the muscles are likewise devoid of myeline, so that the transmission of stimuli from these nerves to the muscular fibers cannot be interfered with by an insulating layer.

3. **DENDRITES.**—The third and last constituent of the neuron is formed by the *protoplasmic processes* (Deiters⁽¹⁴⁾) or *dendrites* (His⁽⁹⁾), *pp.*, *pp'*, Fig. 1). These arise from the internal margin and the sides of the cell, and divide, almost immediately after leaving it, into a number of different branches. The latter terminate with a free end between the dendrites of the neighboring cells. The dendrites are broad and stout, and become gradually attenuated by division, like the antlers of a stag.

They always have a free end, which is either pointed, or furnished with a terminal knot. There are no connections either between the branches of the same cell, or those of neighboring cells, which is clearly apparent on examining places where only few cells have taken the stain in the same neighborhood, and where, therefore, no or only few crossings and overlappings of dendrites are to be found.

There is an infinite variety in the ways in which the dendrites originate from the cell, and become further ramified; and the various aspects of the nerve-cells are quite as much owing to this as to the differences in the shape of the body of the cell itself, which sometimes appears actually insignificant compared with the dendrites. The luxuriant development of these processes shows the bountiful way employed by Nature in her work.

The dendrites being of the same substance as the protoplasm of the cell, may be taken as having the same fundamental properties as the latter; and as their surface is enormously extended, they probably have an even higher susceptibility to nervous stimuli than the cell itself. In contrast to the axon, they act *cellulipetally*; and it is clear that the nervous functions

can take place more easily in the enormously subdivided protoplasmic processes than in the cell itself. Otherwise it would be difficult to conceive why the dendrites should be so extremely plentiful as they are found to be.

Apart from their purely nervous function, the dendrites are concerned in the nutrition of the nerve-cell. Fresh lymph is always absorbed by the surface of the cell, while effete matter is excreted, likewise in the liquid condition. This metabolism is greatly facilitated by the enormous increase of surface which the cell obtains by its dendrites. Schiefferdecker⁽¹⁶⁾ has drawn attention to the circumstance that in many instances a real cellular surface hardly exists, but has actually merged into its dendrites, so that the absorbing surface belongs almost exclusively to these processes. Absorption appears to take place from all parts of the dendrites, and not only from their points, as Golgi has been inclined to assume. This process has nothing to do with blood-vessels, for it occurs at a time when no blood-vessels have been formed, nutritive material being drawn from the lymph which permeates the whole of the nervous structures, and fills up all gaps left between them.

In a physiological sense the dendrites differ from the axons by conducting cellulipetally, while the axons conduct in general cellulifugally. Dendrites do not exist in the invertebrate animals, are scanty in fishes and reptiles, and become more fully developed, both as far as number and length are concerned, in the birds and mammalia. They are thus seen to have an important function, allowing of more inter-cellular associations, so that eventually a single sensation may lead to the co-ordinated action of a large number of nerve-cells. It is likewise a significant fact that the dendrites, as well as the collaterals, become gradually more ramified, more extensive, and more complicated in the human species as the fetus develops, and during the first few years of extra-uterine life.

Their growth, therefore, seems to be promoted in the same ratio as mental activity advances, and the system of association between the different cells of the brain becomes more fully developed. Mosso has shown that the act of fixing the attention on certain facts and ideas is connected with a physiological hyperemia of certain areas of the brain; and it may be assumed that, when this is frequently repeated, the bulk of the protoplasm of the cell will be gradually increased, the dendrites will extend further, and new ones may spring up, at a

time when the nerve-cell has already lost its faculty of multiplication.

The plasticity of the protoplasmic processes varies according to age; it is greatest in youth, diminishes in the adult, and disappears almost entirely in the aged. This explains why there may be such sudden changes of opinion in young people, when they are suddenly withdrawn from the influence of parents and guardians, while such changes are rare in middle life or old age. The objection to new things and ideas, which is so prevalent in old age, may also thus be accounted for.

Whether there is a special chemical compound, to which consciousness is bound, is not known; it is, however, certain that consciousness cannot continue, even for a second, if the supply of arterial blood to the brain is interrupted; and we must therefore conclude that a continuous oxidation of the ganglionic cells is necessary for consciousness. It is likewise certain that the

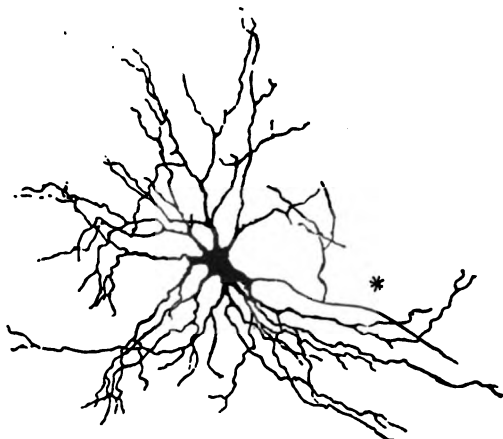


FIG. 4.—Anterior cornual cell from the spinal cord of a human fetus, 30 ctm. long.

presence of lecithin is inseparably bound up with the matured condition of the neuron.

The principal anatomical factors of the activity of the brain are therefore the nerve-cell, the axon, and the dendrites; while its work is likewise influenced and modified by the degree in which the blood-vessels of the brain are filled, by the quality of the nutritive fluid, the width of the perivascular lymphatic spaces of the gray matter, and the state of vasomotor excitability by means of which the quantity of blood which, under the influence of volition and attention, is thrown into the several portions of the brain, may be altered.

In spite of all these results of modern scientific research, we appear to be as far as ever removed from a comprehension of the mode in which nerve-cells respond to the action of external stimuli, or act when

movements are carried out, or sensations perceived, or mental operations connected with thinking and volition are performed. Indeed, we seem in this respect still to be very nearly on that low level which was so cleverly described by Stenson⁽¹⁷⁾ more than two hundred years ago (1671). He remarked that, "notwithstanding the great advances which had been made in our knowledge of the brain, the human mind, which had carried its investigations right into the heavens, had not yet been able to comprehend the nature of the instrument by which its own operations were performed, and that its powers seemed to abandon it as soon as it turned its attention to the organ in which it resided."

A new hypothesis recently proposed by Rabl-Rückhard⁽¹⁸⁾ on this point, has therefore attracted considerable attention. This author starts with the assumption that the conglomerate of the finest nervous fibrils in which the dendrites terminate (neuro-spongium, Waldeyer) is bound to play an important part in the processes of all higher nervous functions. It is evidently there that the exchange of the different molecular processes takes place, the focus of which is in the cells themselves. Each pyramidal cell of the hemispheres must be looked upon as the carrier of a definite number and kind of perceptions and recollective images, the sum-total of which is called memory.

All our highest mental action would thus be only the constantly varying combination of the single perceptions accumulated in the molecules of the cells, or at least bound them as to its material base. He further argues that this fine network is not anything unchangeable, rigid, or fixed, but has during life a vigorous mobility and constant change of communications; in other words, the dendrites are subject to *ameboid changes*. When we are thinking, the fine ramifications of the dendrites may be supposed to be in ceaseless motion, to stretch themselves to enter into a temporary connection with others, and to become separated again at other spots. Thus a kind of mechanism of mental actions may be conceived.

A thread of thought which is cast away may, in this way, be equivalent to a torn-off dendrite of a memory-cell; an ingenious combination analogous to a temporary connection of different ganglionic cells, the dendrites of which are endowed with particularly vigorous ameboid motions; while intellectual languor would be owing to a slow play of the same processes. Sleep, dreams, hypnotism, etc., might thus be assumed to be only phenomena of partial

palsies of the dendrites of certain ganglionic cells.

However ingenious and attractive this theory may appear, it suffers from the incurable fault of being utterly unsupported by facts. This is also the case with the modifications of Rabl-Rückhard's hypothesis, which have been started by Tanzi⁽¹⁹⁾, and Lugaro⁽²⁰⁾. They consider that slower movements and motions of growth occur in the ends of the neurons during mental activity. Now there can be no doubt that the neurons are slowly developing and growing during the first few years of extra-uterine life, and probably at a later period, in proportion to the mental development of the person concerned; and that they assume a higher degree of perfection in persons of mental ability and culture than in uneducated people; while, on the other hand, retrogressive changes take place, not only as age advances, but also in diseases of the mind. These processes, however, can scarcely be termed ameboid.

I have for many years past been of opinion that *the work of the brain-cell is of an electrical nature*. As such questions can only be settled by systematic researches in physiological laboratories, it is much to be regretted that physiologists should have until now occupied themselves so exclusively with the electricity of the nerve and muscle, and have neglected the study of the electricity inherent to the nerve-cell, which is a far more important subject. Even in the most recent work⁽²¹⁾ on animal electricity, we find very little more than such general statements as, that active matter is electro-positive to inactive matter, that more active matter is electro-positive to less active matter, and matter whose action is lowered, is electro-negative to matter whose action is normal; that electrical changes are a measure of physiological activity, that electrical effects accompany a natural discharge of nerve-impulses, as well as the impulses aroused by all artificial stimuli, whether these be or be not of electrical origin, and that an electrical stimulus is not necessary to produce an electrical effect. Aphorisms of this kind are not likely to advance our knowledge of this important subject.

The following remarks are therefore only intended to be suggestive:—

In 1881, I⁽²²⁾ drew attention to the fact that the gray cell may be appropriately likened to a galvanic battery in which an electric current is generated, and the white matter to telegraph-wires, which conduct the current to any place where it may be required. Again, in 1894, I⁽²³⁾ compared the laws which govern the action of arti-

ficial electricity with those which rule the action of the nerve-cells. The principal law of electricity is Ohm's, which is to the effect that the current strength (C) is equal to the electro-motive force (E), divided by the internal or essential resistance which it encounters in the circuit of the battery (R). The formula for Ohm's law is therefore

$$C = \frac{E}{R}. \quad \text{Now the action of the neuron}$$

(N) may be similarly expressed by saying that the energy which may be manifested by it is equal to the force evolved (F), divided by the resistance which it experiences within the cell (R). The formula for the nerve-cell is therefore $N = \frac{F}{R}$. The

energy of the nerve-cell thus depends, first, as that of the galvanic battery, upon production of force and resistance; and lack of power in, or absolute inactivity of neurons may thus be owing either to diminished force-production, or to increased resistance within the cell. In the same way as the battery-current will become weaker by certain changes in the voltaic pair, such as rusty metals, deteriorated or decomposed exciting liquids, etc., and must eventually cease to flow unless the elements are renewed, deposits cleared off, and exciting fluids renewed, so damage to the nerve-cell, with diminished chromophile-substance, attenuated nucleus, etc., must lead to failure of power, lack of decision and initiative, defective memory, and impaired mental and physical activity altogether; and it will only be possible to resume work when waste matters are eliminated, and fresh nutritive material, with an abundance of oxygen, is supplied to it. When the zinc of the battery is completely oxidized, and the exciting liquids have been decomposed, the current must disappear altogether. Similarly, when the supply of nourishment and oxygen is entirely cut off from the neuron, total loss of its function is the inevitable result. When a battery still contains some unoxidized zinc, and part of the exciting liquids has not been decomposed, the current will not completely disappear, but becomes greatly diminished in strength; and just so with the neuron in which the blood-supply is only lessened, but not entirely cut off, there will not be absolute functional death, but fatigue and impaired energy.

The neuron, however, is not only a producer of force, like a galvanic battery, but can act also as an accumulator, becoming charged with force, and able to store it up. Where a proper balance of accumulated force is wanting, there can be no sustained power, either in mental or physical work, and comparatively trivial efforts may thus

lead to expenditure of the small modicum of power which may be present.

I would carry this analogy still further, by comparing the *external or non-essential* resistance which, in a galvanic battery, is encountered by the current in its passage through conductors, with the external or non-essential resistance which is offered to the nervous force when traveling from the brain-cell of the cortex and subcortical centers through the white conducting fibers in the lower levels of the brain, the spinal cord, and the peripheral nerves; and this may occur at any portion of these conducting strands.

We have already seen that the myeline sheaths of the axons are intended to serve as insulators, so that electric currents may be conducted along the axons without diffusion, and that the resistance to passage is five times greater in the transverse section of the axon than in its longitudinal section. There is, therefore, isolated conduction along the whole of the fully matured nerve-fibers, up to the point where they reach the peripheral or central terminations of the sensory organs or the muscles, where the myeline sheath disappears, and the axons become naked and free, allowing of the transmission of stimulation.

The axons of the neuron and the rheophores of a galvanic battery therefore resemble each other like twins. In both there is an insulating and conducting substance. The insulating material in the axon is the myeline sheath, while in the rheophore of the battery it is silk, wool, india-rubber, etc. The conducting substance in the axon is the semisolid axis-cylinder, which occupies the center of the structure, just as the copper or brass wires of the rheophore. Finally, the ends of both axons and rheophores are free, in the axon by dropping the myeline sheath, and in the rheophore by having an uninsulated metallic end. Both axons and rheophores also have a free central and peripheral end, without which they would be unable to act. This part of my theory indeed appears to be perfect, and I am thus encouraged to hope that the other parts of it, which still lack confirmation, will receive it in time.

The trophic influence of the nerve-cell upon its processes is probably a kind of induction, proceeding from the nucleus of the cell to the end of the axon, *and such action may be either electrolytic, or cataphoric, or both*, so that chemical and physical conditions suitable for the assimilation of nutritive fluid would constantly be in operation.

(a) *Increased resistance.*—It has been generally assumed that in failure of nerve-

power only the production of nervous force is diminished, and little account has been taken of resistance; but the symptoms in many cases, more especially where paresis is the principal feature, seem rather to point to unduly *increased resistance* than to diminished force-production. Force seems in many cases to be still there, but it cannot be utilized by the patient, since he is unable to overcome the resistance offered to its liberation.

(b) *Lessened resistance*.—This may be assumed in those likewise very numerous instances in which we have to do with undue excitability and the various forms of hyperesthesia, analogous to what we find in the frog's nerve when this has become fatigued after separation from the body, and repeated stimulation (Pflüger, von Bezold, Wundt). In such cases resistance is so much diminished that conduction is unduly facilitated, in consequence of which the slightest stimulant elicits a violent response, which is out of proportion to the force of stimulation which has been used, and which after a time is followed by complete exhaustion.

Another reason which induces me to assume an intimate connection between failure of nerve-power and inefficient production of animal electricity in the living nerve-cell, is the extraordinary effect which, in a large proportion of cases of this neurosis, is produced by a judicious application of artificial electricity to the suffering part. From what I have observed, during a practice extending now over a very lengthened period, I am inclined to think that when electricity fails to do good in such cases, this is owing either to defective diagnosis of the seat of the trouble, or to an injudicious mode of application. Accurate localization is essential for success with this treatment. It has happened in several cases, which have been under my care at various times, that no progress was perceptible while I applied the electricity to a certain area of the brain which I first believed to be affected; and that when, on further consideration of the symptoms, a different district of the organ appeared to me to be at fault, and I therefore altered the localization of the current, a successful result was obtained. Such occurrences not only give strong support to my theory, that an unsatisfactory condition of brain-currents may be improved by artificial electricity applied to the suffering area, but likewise afford a proof that the influence of suggestion, for which now anything and everything is claimed in therapeutics, does not enter to any extent as a factor into electro-therapeutics. If suggestion were

the active agent, it is much more likely that it would do its work in the beginning of the treatment than after the latter had been for some time ineffectual, whereby any suggestive force inherent to the proceeding must have been lessened rather than increased.—*Edinburgh Medical Journal*.

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Note on Creosotal

Dr. Paul Jacob, of the Medical Clinic of the Royal Charité Hospital in Berlin, reports (*Berl. klin. Woch.*, XXXIV, No. 49) that he has treated 28 cases of pulmonary phthisis with creosotal (creosote carbonate). As to the results, the cases may be classified as follows:

Treated with good results, 11; with fair results, 16; with no result, 1. With most of the patients the time of treatment fell in the fall and winter months, and the treatment could not be aided by the hygienic influence of fresh air. The colds so frequent in phthisical cases at these seasons retarded the progress of some of the cases; and they seemed to occur in just the cases that were being markedly benefited by the treatment. The general condition improved visibly in 25 of the cases. One of the patients said, after taking 60 gme. (2 oz.) of creosotal, that she had not felt so well in fourteen years; the fever, night-sweats, and feeling of weakness entirely disappeared after six weeks. F.

ADDRESS

MODERN CONCEPTIONS OF THE ETIOLOGY OF THE INSANITIES

SIR JOHN BATTY TUKE*

Twice during the current decade the British Medical Association has demanded an address in psychological medicine. For the first time in its history, in 1890, Sir James Crichton Browne was requested to perform this duty, and now, after a short lapse of years, a similar duty has devolved on me.

I believe the actual reason for the requests for these addresses to be that the profession at large is alive to the fact that so-called psychological medicine is becoming day by day more and more incorporated in general medicine and less and less a peculiar and isolated department; that with the advance of knowledge of the nervous system the glamor which hung over the general conception of insanity is becoming dissipated and that the various phases of mental alienation are coming to be recognized as symptoms of numerous and very various morbid physical conditions. In point of fact we are drifting away from the psychological conception of insanity, from the contents of the term "mental disease," even as our ancestors drifted away from the idea of demoniacal possession. *Nulla mens insana sed in corpore insano* expresses the principle which is, to say the least, beginning to regulate our conception and our practice in respect of all the conditions comprised under the generic term insanity. It may be freely admitted that the proposition was enunciated centuries ago, but the theories of the connection between diseases of the general system and mental symptoms were so loose as to exercise little or no influence on principles or practice.

It was inevitable that from the earliest down to quite recent times the study of the insanities should be carried out on psychological lines. The prominence of the mental symptoms asserted itself, and cases of insanity were classified under the terms mania, melancholia, and dementia. Notwithstanding that these so-called forms were based on mere external appearances, that their common characters were so loose, that to say a case belonged to any one of them gave no further indication than could be derived from superficial observation of the case itself, these terms assumed the proportion of diseases. The

symptom was the essence of the case, and the underlying causative condition was ignored. Undoubtedly to the public and the lawyer, the mental symptoms must always be the essence of the case; but to the physician they are not. He has to go further back and seek for the *fons et origo mali*. To him the underlying morbid condition is the essence of the case.

This undivided adherence to the psychological principle of study led to "an undue love of minute detail," and consequently to undue extension. Instances in which intellectual deficiencies were not so apparent as changes in feeling and conduct were designated cases of "moral insanity," with such subclasses as pyromania, erotomania, kleptomania, homicidal and suicidal mania, and so on, irrespective of the clinical observation that no case of insanity exists without moral aberration, and that in those cases in which moral obliquity is most prominent the intellectual faculty is also weakened, inasmuch as the patient is not able to recognize the nature of his immoral acts or weigh their consequences. Thus confusion became worse confounded, and fallacies arose within the psychological conception itself. It had, moreover, a further result in the production of a conflict between law and medicine, the consideration of which, interesting as it is, the limits of this address do not admit of. All that need now be said is that the assumption of a clinico-psychological position on the part of the physician in medico-legal cases served to intensify in his mind the importance of the psychological nosology of insanity. Accordingly so-called psychiatric medicine held a peculiar and isolated position, and, as Griesinger said, "its study was supposed to be distinguished by some difficulty *sui generis*."

It is only during the last thirty-five years that the study of the insanities has ceased to be so distinguished, or at least that scientific data have been afforded that should prevent it being so distinguished, data which, although still far from perfect, have afforded starting-points to the psychiatric physician for the scientific study of his subject.

It is of interest and importance to contrast the state of knowledge of the anatomy and physiology of the cerebral hemispheres in 1864 with that of 1898. Up to the former year even the rough naked-eye anatomy of the convolutions was chaotic, only some two or three gyri being recognized as distinct anatomical landmarks, and it was only then that Gratiolet reduced them to a system, demonstrated their

*Address on Psychology at the Edinburgh Meeting of the British Medical Association.

orderly arrangement, and propounded a nomenclature, which, with certain modifications, is in use to-day.

In the last edition of the *Textbook of Physiology*, by Michael Foster, the part written in conjunction with Sherrington sets before the student a wonderful panorama of brain-connections, paths of conduction between organs without and within the skull, between the various organs of the brain itself, and between various parts of the same encephalic organ. Although the authors never overstep the physiological limit, it is difficult for the reader to avoid, while studying the relations of the mechanism by which impulses are distributed, the construction of schemes which, for the moment, seem to make it remotely feasible to conceive how it might be possible to account for the transmutation of external impulses into states of consciousness. Need it be said that his dreams are short, and that he wakes to the fact that he is vainly seeking to think of the unthinkable, and that his sphere is limited to the study of structures, the destruction or implication of which renders mental activities impossible or imperfect. The very brilliance of the anatomical demonstrations and of the physiological deductions emphasizes the wide gaps in our knowledge. Large areas of the cortex exist to which no system of experimentation has been able to assign or even to suggest special functions. But Flechsig has of late asserted that certain of these unnamed regions in the brain-map may be filled in; for he has arrived at the conclusion, founded on a series of anatomical, physiological, pathological, and clinical observations, that certain of the cortical areas on the superior and frontal aspects constitute the material "antecedents" of mental activities, in that they are the areas in which the stimuli of the various sense-spheres are associated.

Great as has been the work of the anatomist, that of the physiological pathologist has been equally important. Hughlings Jackson's name must ever hold the foremost place in this department of science.

The physiologists of the psycho-physical school, which arose as a result of scientific developments, advanced the study of psychology so far as they ranged scientific data so as to add to the "provisional body of propositions" about states of mind necessary for their philosophy.

Whether our knowledge of states of mind has been materially increased by the lucubrations of this school is open to question, but there can be no doubt that the

views not only of the physiologist, but of all thinking men, have been enlarged by the application of the philosophic mind to the scientific position. Were it only that the world has had placed before it the proposition that the essence of mental life and the essence of bodily life are the same—namely, the adjustment of inner to outer relations—great gain has accrued to science and philosophy. But I verily believe that the change of conception of the nature of the insanities is much more due to the establishment of scientific data bearing on the antecedents of mental action than to the generalizations of the philosopher as to mental activities. Remember we are dealing with the mental attitude of a profession which deals with material, and which, till lately, so far as the cerebral material is concerned, had slight scientific knowledge. Gradually—no, I should say rapidly—perhaps too rapidly for complete assimilation—there has been presented to the physician knowledge of a cerebral apparatus, on which he is warranted in basing working hypotheses and practice. Until that apparatus was demonstrated, he could not assert, except as an assumption, the fundamental physiological principle that mental action is a function of connection, or, the pathological corollary, that interruption of connection is the cause of impaired mental action. Given those starting-points he can work in the same atmosphere as his brother physician. That atmosphere may not be—nay, is not—so clear as that of his colleague; he may still see through a glass darkly; but what he does see is a revelation to him that could not have been afforded by the study of a philosophy which, except in certain of its provisional propositions, is not cognate to medicine.

Time to-day will only serve to allude to the observation around which all others center. That, to my mind, is the demonstration of the mechanism by which impulses are carried from the periphery to the cortex, and from the cortex to the periphery. We know that series of fibers exist which, starting from the entire surface of the body, the muscles, and from the mucous membranes, are collected in the spinal cord, and pass upwards to the optic thalami, whence—as demonstrated by Flechsig, whose observations have been confirmed experimentally by Ferrier and Aldren Turner—they are distributed in three systems to the cortex.

We will deal with only one of these "sensory" systems—that which passes directly to the Rolandic cortex without forming connections in their upward course with

any other system of fibers. In the external layers of the gray matter these fibers come into relation with the dendrites of the pyramidal cells; but there is no anatomical continuity between the sensory fibers and the dendrons; they transfer impulses by contact.

It is contended by certain observers that the liberation of energy takes place in the dendrons, which, by their gemmulæ, are in close contact with the dendrons of other cells, forming what Foster terms "synapses." Be this as it may, impulses descend to the cell-bodies, through which certain of the fibrils of the dendron pass to the descending axon—till lately spoken of as the axis-cylinder—the fibrils of which are distributed to the periphery, throwing off collaterals to remote areas of the cortex.

In order to obtain and maintain the conception of the mechanism of a circuit it might be well not to restrict the term "neuron", to the cell-body and its dendritic processes, but to include in the term the ascending conducting apparatus, the cell-body, and the spinal, cerebellar, and cerebral distributing arcs, and to regard the whole apparatus as a physiological if not an anatomical unit.

It is not necessary for our present purpose to consider where and how the transmutation of peripheral impulses takes place, but it is of importance to emphasize the statement that impulses are not generated in the cell-body. As Gowers says, the old battery-idea must be thrown aside. It may be regarded as the "vital center" of the neuron, and, making allowances for the possible action of the dendrons, it may be held to be a receiver, conservator, and transmutator of energy, and a liberator and distributor of energy by means of its synapses with other pyramidal cells, and with what is of supreme importance, association-cells. But all impulses come from without, a fact which must have important bearings on the question of the adjustment of outer to inner relations.

Although the neuron has been spoken of as an organ, it may be well to state, for the benefit of any layman who may be present, that the neurons can be counted by millions; but any one can realize that an almost unappreciable number of organs must exist for the reception and distribution of the constant and continuous flood of impulses that streams from without inwards to the brain.

It is as difficult to estimate the influence of the development of knowledge of the nervous system on the individual general physician as it is to gauge the influence of

bacteriology. Our acquaintance with both these subjects is a recent acquisition. The latter is a new science, and I believe I am right in saying that in the case of many of us only its outlines are present with us. But the principles pervade the method of thought of the whole profession. So with the study of the minute anatomy of the brain; none but experts can be expected to be acquainted with the full details of its anatomy, but the great leading facts as to structure, and the facts, theories, and warrantable assumptions as to its actions, have operated, and continue to operate, on the views of the specialty at large. Its members, knowing that they have a mechanism to deal with, solution of the continuity of which in any part of its course may affect its function, have a scientific foundation for the study of the morbid influences productive of interruption of connection.

A strong indication of the awaking of the scientific spirit is afforded by the earnestness with which the study of the morbid anatomy of the brain is being prosecuted by the psychiatrist all the world over. Shortly after methods of cutting and staining microscopic sections of nervous structure were promulgated, the rough turning over of the soil was begun. Naturally, in dealing with what was then an occult subject, certain errors of observation and deduction were made; still, the fact was elucidated that marked departures from health were to be found by microscopic examination of the brains of persons dying insane. Since the publication of Bevan Lewis' book our knowledge of the minute anatomy of the brain has been considerably increased, and with it our knowledge of its lesions and our appreciation of their significance. Let me allude to two instances of this: First, the demonstration of the loss of gemmulæ of dendrites under the action of disease, the organs which we have a right to believe have important conducting function; and, secondly, to changes in the cell-bodies, the significance of which was misinterpreted so long as the cell was regarded as an originator of impulse. Now that we understand that one at least of its functions is control over the nourishment of the great neuron, the pathological value of its lesions assumes different, but still very important, proportions, inasmuch as the consequences of impaired trophesis, interruption of continuity, must be sought for in the synapses or in other parts of the paths of conduction.

The value of research into morbid cerebral anatomy made itself so strongly felt that laboratories were established in many asylums, and eventually the County Coun-

cil of London were so deeply impressed by the importance of the subject that they instituted a thoroughly equipped laboratory for the systematic study of the pathology of insanity, placing it in charge of that able and experienced physiologist and pathologist, Dr. Mott. The work he has already accomplished is of great interest and value, and we may confidently anticipate rapid progress in this department of science as the result of his labors. Scotland has followed suit.

An association of asylums has been formed for the same purpose. Assisted by the Royal College of Physicians of Edinburgh, suitable premises have been provided, and systematic work is being prosecuted under Dr. Ford Robertson, one of whose most important duties is the instruction of assistant medical officers of asylums in methods of research. Similar institutions have been erected in the United States, and if I merely refer to the observations of Van Gieson, of New York; of Berkeley, of Johns Hopkins University, and of Hodge, of the Clark University, evidence is afforded that important scientific results have been already obtained, bearing not only on morbid anatomy, but on physiology and normal anatomy. Contributions flow in from Germany, Italy, France, and Russia, and it may be truly said that the psychiatrist all the scientific world over is alive to the necessity of tracing the lesions productive of solutions of continuity as an essential part of the pathology of the insanities.

In this connection I may allude to the importance attached to science by the Medico-Psychological Association of Great Britain and Ireland, which holds examinations for the certification of practitioners, already conversant with insanity. While demanding evidence of knowledge of the normal and morbid anatomy of the nervous centers, it excludes psychology in any form as a subject of examination.

As a consequence of this system of study a vast change has come over the aspect of psychiatric literature. The journals of the day, instead of dealing largely with analyses of the mental condition of real or imaginary persons, with abstract considerations, and mere clinical details, are now mainly occupied by papers of a strictly scientific character bearing on the production of neuroses, and the reports of cases are rarely confined to a mere description of symptoms; and in one particular instance, the monumental work of Bevan Lewis, we have the study of the insanities precluded by a systematic account of the cerebral appa-

ratus, instead of by an attempt to analyze mind, which was the time-honored introduction to works on mental aberration.

But the all-important question remains to be answered: What effect has the change in the principles of study had on general pathology, practice, and treatment? As regards general pathology the evidence is manifold, but I must confine myself to two illustrations.

In former times the theory of the effect of the mind on the body held a foremost place, and gave rise to many misconceptions. For instance, the general degradation of the system, the complications in the intestinal and reproductive systems, which are such marked and important symptoms in many of the insanities, were regarded either as the results of abnormal mental action or as its cause. Now that we recognize that the brain exercises trophic functions over all the organs of the body, we are alive to the fact that such degradations are referable to imperfect brain-action, that they are secondary on the reduction of its nourishing action, and are to be treated accordingly. Another evidence of change is afforded by the acceptance and extension by the psychiatrist of the principle that all mental symptoms are produced by the action of the same causes of disease which act in other systems than the nervous.

In the absence, which I believe will be but temporary, of a nosology of the insanities founded on morbid anatomy, we find him tracing the history of each etiological class, studying each and all on the same lines as the hospital-physician follows in the case of ordinary disease. He is no longer content with the rudimentary classification of the insanities; he disregards the six "disorders of the intellect" set forth in the *Official Nomenclature of Diseases* published in 1871, and associates with and qualifies each symptom by an etiological term indicative of the morbid agency which has been potential in its production.

The psychiatrist has influenced public opinion in this respect very markedly. In most of the recently erected institutions for the insane, at home and abroad, we find separate hospitals provided for the treatment of recent and acute cases. This surely marks the reduction of theory to practice. Instead of the subject of a recent attack of insanity being mixed up with the residuum of chronic cases, he is placed in a separate institution, where he is submitted to systematic treatment on thoroughly hospital-principles. The extreme

delicacy of the brain-structure demands early and assiduous medical treatment in order to prevent disintegration and destruction of tissue; and the psychiatrist has so forced this on the mind of lay asylum-authorities as to have induced them to place at his disposal hospitals suitable for this purpose.

But even with such appliances many of those working amongst the insane are heavily handicapped, as no provision is made by the public for the treatment of cases in the initial stages. Statistics show that the increase of chronic lunatics occurs amongst the poorer classes of society, and not amongst the rich. I believe this to be due to the latter being able to place members of their class showing indications of incipient insanity under systematic treatment at home during the prodromal stage; whilst the former are compelled to allow matters to drift till cases become more or less confirmed.

We know that if we exclude general paralysis and epileptic insanity from consideration, at least 80 per cent. of recent cases are amenable to treatment. But such treatment is necessarily costly, as it involves nursing, possible change of residence, and continuous medical attendance. This is out of the power of the poor to obtain. All general hospitals shut their doors against persons suspected of insanity, on the ground that the asylum is the proper place for their treatment. The asylums, however, cannot receive cases until the symptoms are so far advanced as to warrant certification; and, in England especially, the procedure for the transmission of insane persons to asylums is so absurdly cumbrous as to prevent many persons being placed under treatment until such time as the probabilities of recovery are seriously lessened or the case is hopeless. How this state of matters can be improved is one of the questions to be taken up by the commission I have suggested. Some relief may be obtained by the inclusion of the study of the insanities in the five years' curriculum of study demanded of the rising generations by the General Medical Council.

If teachers conduct their courses of instruction on the general principles that govern the teaching of medicine, the general practitioner will soon be found treating the insanities as he does everyday disease, and we may fairly anticipate a reduction of the number of cases relegated to asylums as a consequence of early and rational treatment.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Tinea Tonsurans—Its Treatment

H. B. Sheffield (*N. Y. Med. Jour.*, May 14, 1898, p. 680) treated successfully nearly five hundred cases of ringworm of the scalp with the method described below, and believes that every case of this disease can and will be cured within three to six weeks provided the directions given are strictly adhered to:

R—Acidi Carbol.	}	..... aa	65.0
Olei Petrolei			
Tinct. Iodini	}	.....	110.0
Olei Ricini			
Olei Rusci (German)		...q. s. ad	500.0

After clipping the hair close to the scalp this mixture is applied over the entire surface—more thickly over the affected spots—by means of a painter's brush, once a day for five successive days. On the sixth day it is wiped off with a rag dipped in plain olive-oil. The hair is then clipped again and the scalp washed thoroughly but gently with green soap and a soft nail-brush, care being taken that all the scales and loose hair covering the scalp are removed. No epilation is, as a rule, necessary. On the seventh day the mixture is reapplied as thickly as before and the whole process is repeated regularly for three or four successive weeks—the length of time depending upon the severity of the case—when it is found that new hair begins to appear and no trichophyton fungi can be discovered in the hair epilated for microscopical examination.

These procedures are followed by a few days' application of a ten-per-cent. sulphur ointment, and then by the use of the following preparation for about two weeks:

R—Resorcini....	}	..... aa	16.0
Acidi Salicyl.			
Alcoholis.....		.....	120.0
Olei Ricini. ....		...q. s. ad	500.0

This mixture considerably hastens the growth of the hair on the bald spots. In cases where isolation is impracticable or impossible, as often happens in private families, this resorcin mixture serves as an excellent substitute, for the writer observed that when it was superficially applied to the healthy heads coming in direct contact with the ringworm patient no infection took place. In order to avoid soiling the bedding, the pillows are covered at night with ordinary oilcloth. The writer de-

cates the use of caps, believing that it is often a means of carrying infection. Very seldom, the writer says, do the nurses strictly obey the order given by the physician—that a patient should not receive the cap of his comrade; and we find too often that the caps are mixed up so that a patient with only one affected spot gets a cap filled with fungi in every portion of it. This fact alone is of sufficient import to deprecate the use of caps and makes the writer's method of treatment much more valuable. As further advantages of his method of treatment, the author enumerates the following points:

1. The cure is speedy, with little or no inflammatory reaction.
2. The mixture can be easily and rapidly applied. This is of special value where many cases are to be dealt with.
3. It lessens the liability of self-infection (as well as further spread of the disease) by keeping the scales and broken-down hair closely adherent to the primarily affected spots.

S.

The Suprarenal Capsules

Swale Vincent contributes a valuable and exhaustive paper on the subject to the *Birmingham Med. Rev.* (Vol. XLIII, No. 236). The most recent views about these organs may briefly be summed up as follows: The suprarenal capsules consist of two separate and distinct glands, cortex and medulla. The medulla contains a chromogen, possibly allied to tannin in coffee, and an active principle which chemically appears to be closely connected with piperidine. This latter has a remarkable effect upon the muscular tissues generally, increasing their tone, and producing, when injected intravenously, an enormous rise in blood pressure.

There is also a central effect manifested by the production of paralysis, but whether this is due to the same or a different active principle, is not yet determined. The function of the cortex remains also yet to be elucidated.

Tubercular Ulceration of the Rectum

In two hundred and sixty autopsies after deaths from all causes, S. T. Earle (*Louisville Jour. Surg. and Med.*, June, 1898) has found tubercular ulceration of the rectum in twenty-six cases.

Either swallowed sputum or the products of ulceration higher up in the digestive tract are the sources of tubercular ulceration of the rectum, which is especially susceptible because the virus which these products contain is for a comparatively

long time in contact with its mucous membrane. The rectal ulcers are rarely single; in most cases they are several in number. Dr. Earle has usually found them from two to four inches beyond the anus, disagreeing here with Kelsey, who states that their favorite site is the verge of the anus.

There are two forms of ulceration: I. Those similar to the typical form met with in mucous membranes generally. They start in the solitary follicles, vary in size from a pin's head to a half-dollar or larger and are generally oblong, their long axis corresponding with that of the bowel. The edges are rough, irregular, and perhaps slightly undermined, and the base is rarely clean, but usually contains caseous, necrotic material. Sometimes, however, the edge is clean and sharp, the whole having the appearance of being punched out. Small grayish-white spots may be seen in the base and edges; these are miliary tubercles. The ulcers vary in depth, at times involving only the mucous membrane, or extending deeply into the muscular coat. II. A very rare form which does not have the characteristic appearance of the tubercular ulcer. The mucous membrane is smaller and injected, in some cases covered with a slight fibrinous exudation this membrane presently breaks down and ulceration results. The author has seen but three cases of this form, all negroes; in each case the presence of the tubercle bacilli in the lesion was demonstrated by microscopical examination, the details of which are recorded in this paper. Dr. Earle has not met with any cases of non-tubercular rectal ulcerations in tuberculous subjects, and does not believe they exist. Symptoms are diarrhea, burning pain in the rectum, tenesmus, and discharge of a small amount of pus, mucus, and blood during defecation.

G.

The Association of Tuberculosis and Nephritis

Among the cases reported from the hospital by *La Méd. mod.* (Vol. IX, No. 9) was the following at La Charité by M. Potain:

For two years the patient had exhibited signs of nephritis, evening headache, edema of the lower extremities, and albumen in the urine. The abdomen was distended and appeared to contain fluid, and the patient complained of digestive disturbances. General health had always been poor. Emaciation was marked, and there was frequent cough. Palpation of the kidney revealed nothing unusual. Auscultation of the heart revealed no murmur or hypertrophy. Examination of the lungs revealed signs of an old effusion at left base. In

other portions of the chest emphysematous conditions were made out; there were tympanitic resonance, feeble respiration, and prolonged expiration.

Briefly, the patient was attacked, without assignable cause, with nephritis, followed by ascites and pleurisy, with cough and emaciation.

The ascites accompanied by digestive disturbances resembles the condition of tubercular peritonitis. The pleurisy is not acute, and, finally, the arterial pressure is low. Thus all the signs pointed towards a tubercular affection obscured by pulmonary emphysema. The question thus presents itself: Would a patient suffering with nephritis become tuberculous, or vice versa? M. Pean stated his belief that the tuberculosis was the primary trouble. The part taken by this malady in nephritis is variable. In some cases invasion of the entire kidney takes place, as in granuloma; in others it contains tubercles which become caseous and cause cavities; again, the tubercles are sparingly present. Finally no tubercles are found, the bacillary infection being represented by nephritis. This later condition is the one M. Potain believes exists in his present patient; that is, that a catarrhal nephritis was the cause of the symptoms.

The prognosis was doubtful.

The treatment was directed toward the albuminuria. It consisted of a rigid milk diet, and the administration of tannic acid and tannic acid with iodine. These drugs were used alternately with arsenic.

The pleurisy was accidental and will probably disappear. H.

The Blood in Infancy

One of the last lessons that a physician has to learn is, according to an editorial in the *Jour. of the Am. Med. Assn.* (Vol XXX, No. 25), that a child is not a little man. At birth the child is a very incomplete human; it increases in size rapidly during the first few months, but this rapid growth of its organs is of course at the expense of the stability; in other words, the resisting power of the organism to abnormality of all kinds. The blood of infants and young children is especially prone to undergo changes from slight causes and, as a rule, the younger the individual the less the effort needed to throw the blood off its balance, so to speak.

The blood of a young child differs greatly from that of an adult; indeed, if we were to take the blood of a young healthy adult as normal, we would be apt to look upon the blood of a young infant as path-

ologic. If a specimen of adult blood were similar to that of a young infant, we would be justified in concluding that that adult was suffering from some pathologic lesion that was exerting its chief malignant influence upon some of the blood-forming organs. But when we find in all infants these same differences from the adult type it would be absurd to call infant blood pathologic, especially as it needs but the passage of time to bring about gradually the conditions we are in the habit of regarding as the true standard.

Normal adult blood consists of fluid and solid elements, the latter of which are only of interest to us at present and are known as red and white corpuscles, existing in the relation of one white to five to six hundred red. One cubic mm. of blood contains approximately 5,000,000 reds (4,500,000 in the female) and from 5000 to 7500 whites. The red are all of about the same size and shape and are normally not nucleated. The whites are divided into several varieties, the division depending upon the age of the cell, young, adult, and old leucocytes. The proportion of these one to another is a point of considerable practical importance; the young cells of two varieties, the small lymphocytes comprising 20 to 30 per cent. of the whole, and the large lymphocytes 5 to 10 per cent.; the adult forms, known as the polymorphonuclear neutrophils, 60 to 70 per cent., and the old cells or eosinophiles 0.5 to 4 per cent.

To take up the changes in infantile blood in the same order we have enumerated the facts in the adult, we find first that the infant is very liable to have an excess of red corpuscles per c.mm. from one-half to as high as one and a half million. A very common change, so common in fact as to be almost constant, is the leucocytosis or increase in the number of whites that occurs during the few first days after birth. Cases have been reported of a leucocytosis of the first day of nearly 20,000, increased by the first meal to over 25,000, which gradually recede toward the normal line during the next few days. Leucocytosis occurs after a meal in adults, but never to this great extent, another point showing how easily the blood of infants is affected by slight causes. The red corpuscles usually show considerable variation in size and shape, a condition known as poikilocytosis, and not infrequently we find in the peripheral blood that variety of nucleated red corpuscle known as the normoblast, a cell only found in adult blood when pathologic conditions exist. The most important difference, however, is between the relative number of the varieties of leucocytes as

shown by the differential count. This count shows that the lymphocytes are relatively more numerous in infants, being present even as high as 60 per cent. This increase is mainly at the expense of the adult forms, which may exist as low as 20 per cent. When we remember that the adult forms are the only ones of the leucocytes to exert phagocytic action, the readiness with which children become diseased is rendered more easy of explanation. The hemoglobin estimate is not of much importance from a practical standpoint. As the reds are more numerous during the first few days of life, the percentage of hemoglobin would, other things being equal, be somewhat increased. This percentage falls with the lowering of the number of reds and in a somewhat greater degree, so that the hemoglobin after the first week is lower than in the adult.

S.

Ophthalmia May Simulate Epidemic Trachoma

La Sem. méd. (April 6, 1898) reports M. Greef, of the Berlin Medical Society, as having stated that he had examined into the nature of several epidemics of ophthalmia only to find that physicians had erred in taking for trachoma a most common acute infectious conjunctivitis (Von Graefe's Schwellung's catarrh) and simple hypertrophy of the follicles of the conjunctiva. The former is seen in schools and barracks attacking a great many at once, the lids swelling in a single night, watering greatly, and accompanied with intense photophobia. All morbid phenomena go away in two or three weeks. Bacteriological examination shows pneumococci, diplobacilli, streptococci, staphylococci, etc. But the epidemic is limited in area.

The second form—swelling of conjunctival follicles—is found especially in badly aired attics and will affect 20 per cent. of the children of a school, especially those with scrofula or those anemic. Local treatment is harmful. Hygienic treatment is indicated.

H.

A Graphic Study of Tremor

The author, A. A. Eshner (*Jour. of Exper. Med.*, Vol. II, p. 301, 1897), in an extended series of observations, studies the following questions: (1) Whether or not a demonstrable tremor exists in healthy individuals; (2) whether or not any relation or gradation exists among various kinds of tremor; and (3) whether or not various forms of disease show, as to their tremor,

distinguishing characteristics. The summary of the conclusions reached is as follows:

(1). All muscular movements are made up of a series of elementary contractions and relaxations, which may be appreciable as tremors in conditions of both health and disease.

(2). The difference between different tremors are of degrees rather than of kind, i. e., no form of tremor is distinctive of any one disease or group of diseases.

(3). No definite relation exists between one form of tremor and any other.

(4). The frequency of movement is in inverse ratio to the amplitude and vice versa.

(5). Habitual movements are performed with greater freedom from tremor than unusual movements.

(6). There is no material difference between the movements of the two sides of the body, except as related to proposition 5.

The paper is well illustrated with tracings, and the apparatus used well described.

J.

The Conduct of the S. Weir Mitchell Rest-Cure

E. De Witt Connell (*Med. Sentinel*, June, 1898) speaks with authority on this subject, having in the beginning of his professional career done much work in Dr. Mitchell's infirmary for nervous diseases. The *rest-treatment* should be instituted only when all other means have failed; it is particularly applicable in chronic dyspepsia, in anemia, in loss of vitality due to long-continued malarial poisoning, for neurasthenics, for those suffering from hysteria, and especially for those patients to whose disease it is difficult to give a name, but whose symptoms are caused by the enervating influences of modern civilization in great cities, with the mental and physical strain involved in the struggle for existence or for the attainment of other more or less worthy objects. The success or failure of the treatment will depend very largely upon the nurse's efficiency. It is important, moreover, to establish thoroughly systematic habits of mind and body. The other essentials are isolation, entire rest in bed, and excessive or forced feeding, which is made possible by passive exercise obtained through the steady use of massage and electricity. The diet should begin with milk, which should gradually be replaced by more substantial food. The bowels should be kept active, but otherwise no drugs, no artificial stimulants or other forcing agents are permis-

sible. The daily routine would be somewhat as follows:—

The patient is aroused at 7 o'clock or earlier in the summer; a cup of hot cocoa, of tea, or of coffee, or a glass of milk, is drunk. Then the nurse, using water as cold as possible, and containing some stimulating substance, such as salt, bathes the patient, who lies the while between blankets; one limb is taken at a time, and after bathing, it is rubbed to a good pink glow then it is protected by the blanket before the next part is bathed. At about 8 o'clock an ample breakfast is served. Then there is rest until 10.30, when fluids are again given. At 11 there is massage for half an hour, after which the patient drinks a glass of milk. At 1 P. M. there is a liberal dinner. At 3 more liquid food is administered. Then comes electricity in the form of tonic faradism. The physician had best visit in the latter part of the day. At 6 there is a fairly substantial supper. At 9 another glass of milk is drunk; it would be well after this to give the patient a dry rub, preferably with a towel which had been immersed in a salt solution, and had been hung up subsequently to dry. After three to four weeks the patient may sit up in bed—then he may feed himself—then he may sit up out of bed once a day, then twice a day until an hour out of bed morning and afternoon is permitted. Then short excursions out of doors and brief drives are followed by change of scene either to the seashore or the mountains, or, best of all, an extended sea voyage. Doctor Connell's instructions concerning massage and electricity are detailed at some length.

A Case of Fatal Poisoning with Acetic Acid

The following case, reported by Dr. Stumpf in the *Munch. med. Woch.* (No. 22, p. 690, 1898), has many points of interest. A man of 32, a Hercules in build and in health, made for himself some potato salad with concentrated acetic acid (which is sold in Germany under the name of vinegar essence, and which is diluted with water when required); being too lazy to get for himself some water, he ate it as it was, drinking the remainder of the vinegar (in all one or two tablespoonfuls). Several hours later the patient began to have severe abdominal pains, diarrhea and vomiting. When the doctor saw him the next morning he was in extremis. The heart was exceedingly weak, the radial pulse was absent absolutely, the face and extremities were covered with a cold, clammy sweat. He was unable to speak, but not altogether coma-

tose. He was stimulated with cognac and injections of camphor, and his pulse improved somewhat. The vomiting diminished, but the diarrhea assumed a rice-water character and became continuous. On the next day somnolence set in, which became gradually deeper until the patient died—on the fourth day after having taken the acetic acid. At the autopsy the stomach was found absolutely empty; the mucous membrane was of a dark gray color, with numerous subepithelial ecchymoses. The author calls special attention to the following symptoms in his case: The absolute pulselessness for nearly 24 hours, the uncontrollable continuous diarrhea and the somnolence, which lasted for nearly two days and closed the scene. R.

A Study of the Causes of Difficult Defecation in Infants

An instructive paper is offered by T. C. Martin (*Cleveland Med. Gaz.*, Vol. XIII, No. 6), referring to the fact that infants and young children strain at stool because of the imperfect development of the anatomic features concerned in the mechanism of defecation, which are: 1. The infant's lower gut is muscularly deficient. 2. Its mobility within the abdomen is obstructive to defecation. 3. The rectal valves are obstructive. 4. The infant's anus, not being sufficiently expansible, is also obstructive to defecation. Numerous specimens of infant recta and sigmoid are referred to in text, as well as through illustration; these, though somewhat shrunk by age, as well as by process of preparation, are fairly illustrative of the facts upon which the declarations of the paper are based. The relations of the peritoneum to the rectum in the infant contribute to the difficulties of defecation, as does also the relatively great length of the descending colon and sigmoid flexure. In young children the length of the sigmoidal mesentery from its attachment to the parietes to its invagination of the lower loop of the sigmoid is often greater than the distance from the promontory of the sacrum to the distal bone of the coccyx. From the sigmoido-rectal juncture to the beginning of the middle third of the rectum the mesentery rapidly shortens, but the peritoneal coat completely invests the upper third of the rectum. The parietal peritoneum descends over the ischial tuberosities and approaches nearly to the ental sphincter muscle; in the newly-born the peritoneum is situated within one-fourth inch of the anal skin. The disproportionately great length of descending colon and mesentery in the infant obviously contributes, as shown by the writer, to the

possibility of angulation of the gut. The third factor as regards obstruction to defecation in infants and young children is the rectal valve, a feature and factor not only generally unrecognized, but one whose very anatomical existence has been most ingeniously and persistently disputed. The specimens shown by the writer prove that the existence of the valve is no longer a matter for debate. From this it must be seen that the presence in the rectum of such a structure as an anatomic valve would be essentially obstructive to the passage of feces. Regarding the inexpandibility of the infant anus, as compared to the adult, the writer further shows by the several specimens presented, that the juxtaposition of the ischial tuberosities in the infant supplies a most obstructive factor. L.

The Diplobacillus of Subacute Catarrhal Conjunctivitis

According to Dr. H. Gifford (*Annals of Oph.*, Vol. VII, No. 2, 1898) this germ was first reported by Morax, as a frequent cause, in Paris, of subacute and, more strictly speaking, of chronic conjunctivitis. The disease which it caused was in general very insidious in character, frequently beginning so gradually that the patient could not tell when it really began; and running a course of from six weeks to six months, during which the main symptoms were a slight redness and hypersecretion of the conjunctiva and very moderate subjective symptoms. Often, in fact, the only thing which brought the patient to the doctor was the persistence of a slight agglutination of the lids in the early morning. The germ commonly occurs in the form of a diplobacillus, each member of which measures 2-3 mm. in length by 1-5 mm. in breadth. With pure cultures Morax was able to reproduce the disease in man. Axenfeld has also described the germ. He insists upon the slight tendency to spontaneous cure and prefers to designate the affection as a chronic rather than a subacute conjunctivitis. He, too, obtained positive results in two cases in which the human conjunctival sac was inoculated with it.

Lately, Peters has found the germ in eighty cases. Dr. Gifford has observed the diplobacillus in diverse conditions of the conjunctiva. He says he has not been able to grow this germ upon any preparation of agar, gelatin, potato, or bouillon; neither has he succeeded in growing it on serum at room-temperature; but at a temperature of from 94° to 98° F. it grows readily upon pig-serum and serum-agar, the serum being liquefied all along the

line of growth, which broadens, if the tube is kept in the oven, until in some cases the whole surface of the slant is broken down. Dr. G.'s cultures have died out in from ten to fourteen days. In the secretion the germ, while showing some individual variation in size, is on the whole quite uniform. The large, thick, double rod is the almost invariable form, each member of the pair frequently showing an indistinct subdivision at its middle. In culture there is more variety in the forms to be seen. The germ stains very readily, dilute carbol-fuchsin giving the best pictures. It is decolorized by Gram's method.

Dr. Gifford prepares the specimen by spreading the discharge very thinly on the cover-glass with a wire, staining with carbol-fuchsin diluted on the cover-glass with two or three times its bulk of water, and warming it for about two minutes.

The author concludes by saying that it is evident that the appearance of the eyes infected with this germ is anything but uniform, but it can certainly be said that in the great majority of cases the symptoms are subacute or chronic in character. He has found them to yield quickly to a one-fifth-per-cent. solution of zinc chloride dropped into the eyes, or in rare, obstinate cases, upon the everted lids. According to the writer's experience the most important characteristic of this germ is its power of producing serious corneal ulcers. G.

Pathology of Epilepsy

O. P. Ohlmacher (*Bull. Ohio Hosp. for Epileptics*, January, 1898) reports on six cases of epilepsy, which form the basis of a second paper upon the resemblance of the foregoing cases of epilepsy to certain diseases associated with thymic hyperplasia. He discusses:

1. Thymic asthma.
2. Sudden death in adults with persistent thymus.
3. Exophthalmic goiter.

The author shows that in four of the cases of epilepsy there was a marked increase of the thymus, and he further adds, that while four cases do not form a basis for weighty conclusions, still, when these four cases are of a disease in which the morbid anatomy has always been dark; in which a constant gross lesion in even four consecutive cases has been almost unknown; and in which, unfortunately, attention has been almost exclusively centered upon the brain; then the discovery of a uniformly characteristic condition, outside of the brain, even in four cases, carries with it a hopeful suggestion. Further, when it

happens that the peculiar morbid anatomy fits in with several other conditions in which certain clinical analogies can be shown, and particularly when these conditions are almost as mysterious as epilepsy, then it seems justifiable to direct careful attention to the various relations suggested by the study.

One thing must be certain, and that is, that somewhere, somehow, the peculiar morphological anomalies found in these cases of epilepsy and also noted in thymic asthma, thymic sudden death, and possibly Basedow's disease, will be found to have more than mere accidental bearing, for assuredly it is not nature's habit to leave behind in a certain unfortunate class of human beings a series of morbid anatomical conditions, such as those we have considered, without some weighty purpose behind her.

J.

Renal Calculi

Dr. Morris, in the "Hunterian Lectures on the Surgery of the Kidney" (*Brit. Med. Jour.*, March 26, 1898, and following numbers), says that renal calculi may be considered the most important of all surgical affections of the kidneys for the following reasons:

1. They are the most frequent and most painful of the surgical diseases of the kidney. Probably no disease except acute tetanus is capable of causing worse suffering.

2. Renal calculus, while slowly destroying the kidney, often physically disables its victims by its unrelenting irritation and its unyielding resistance to every form of dietetic and medical treatment.

3. No disease gives rise to such a variety of morbid changes in the kidney as calculus, and none is more certainly fatal when allowed to progress without surgical interference.

4. Few operations are so successful as nephrolithotomy, by which a calculus is removed from a kidney not disorganized by the calculus or otherwise. No great operation is followed by a smaller mortality. Nephrolithotomy produces an absolute cure, saving the kidney from progressive destruction and the patient from what at any moment may prove to be an imminent danger to life.

5. Renal surgery will grow in confidence and in favor with the profession and the public, as nephrolithotomy anticipates and displaces nephrotomy and nephrectomy.

6. Another reason that calculus-disorders are so important is because of the difficulties and errors attending their diagnosis.

These difficulties are due to four causes: 1. Several other renal and ureteral affections give rise to the same symptoms as calculus. 2. Several diseased conditions of other organs cause symptoms which simulate those of renal calculus. 3. Symptoms caused by renal calculus may be transferred to other organs, or they may be of a psychical order, with or without high temperature, and not referred at all to the kidney itself. 4. Calculi may be marked for an indefinite time, giving rise to no symptoms whatever, yet causing all the while progressive destruction of the kidney.

R.

The Formation and the Clinical Significance of Albumin and Casts in the Urine

From a study of the subject and with all the facts before him, Dr. W. H. Porter, New York (*Phila. Med. Jour.*, Vol. II, No. 14), asserts that albumin coming directly from the kidney comes from two sources; transudation through the vascular walls of the capillaries constituting the Malpighian tufts, when the renal organs are the seat of a traumatism or an acute exudative or diffuse nephritis, and are an excretion direct from the excretory epithelium. In the latter instance it may be in connection with marked retrograde changes or it may be without any appreciable degeneration or loss of functional activity of the protoplasm constituting the epithelial cells of the kidney, the isomeric proteid bodies in part replacing the fully formed katabolic products of a perfect oxidation and fully relieving the system of all waste and toxic matter. The following deductions are also drawn: 1. That serum-albumin as a single proteid substance is a thing of the past. 2. That the epithelium of the uriniferous tubules excretes the various forms of proteid substances that are found in the urine. 3. That it is through this excreted proteid material that our casts are formed. 4. That there are two distinct classes of casts, one denoting no structural change in the renal gland, and one that does indicate positive retrograde changes. 5. That casts may be found and no albumin, and vice versa, and that the former is not infrequent. 6. That the one class of casts can be found in almost every sample of urine submitted to the centrifuge. 7. From a close and careful study of the kind and amount of proteid bodies eliminated through the kidney, together with a careful study of the size and character of the casts, one is enabled to determine the exact condition of the renal

glands, and in fact, of the system at large. This much established, the prognosis and treatment become rational and not speculative. From a long and large experience with this class of cases, the author believes that a large number of cases are diagnosed as nephritis, that have not and may never have the disease. Further, that a large percentage of the cases that actually have renal disease can be not only greatly improved, but actually cured, active treatment being applied on a physiological basis. From a histological standpoint it may be contended they are not cured, but from the physiological they are, just as the man with the fractured leg is never cured histologically, but he practically walks as well as ever, and, therefore, functionally is cured.

L.

Association of Arteriosclerosis and Rheumatic Gout with Other Lithemic Manifestations

B. K. Rachford (*Phila. Med. Jour.*, Vol. I, No. 16, p. 689) calls attention to the etiologic rôle which the uric-acid diathesis plays in the production of arteriosclerosis, chronic kidney-disease, and rheumatic gout. The belief is expressed that the symptomatology of this condition results not alone from the presence of uric acid in the blood, but also from other alloxuric bodies, including the xanthins. Emphasis is given to the importance of the gastro-enteric symptoms as they occur in infancy and childhood, and of certain nervous symptoms, such as migraine, migrainous epilepsy, and gastric neurosis, which may occur at any period of life. Several cases, of rare interest, from careful clinical observations extending over a number of years, are reported in detail, illustrating the relationship of lithemia as one of the most important etiologic factors in the production of arteriosclerosis, arthritic gout, and chronic Bright's disease. Two cases claim special attention since they show an interesting relationship between thyroid feeding, acute arthritis, and an excessive excretion of the alloxuric bodies. In one case there was given the patient when slowly improving from one of his severe arthritic attacks, one grain of thyroid powder three times a day for one week; at the end of that time fever developed and another sharp arthritic attack appeared, which was attributed to the thyroid he was taking. In the second case of this character the wrists and ankle-joints of the patient became inflamed three days subsequent to his having begun the administration of two and one-half grains of thyroid powder three times a day, the attack proving to be one of his

ordinary attacks of polyarthritis; his urine containing also an excess of the alloxuric bodies. It is important, therefore, to note that thyroid feeding is contraindicated in this class of cases in that it may precipitate such attacks. Moreover, these facts may not be entirely without value in the study of the etiology of rheumatic gout. In another case described as rheumatic gout, developed as a symptom of a long-standing lithemic state, the joint-symptoms were aggravated during the menstrual period, one joint of one of the fingers being red, tender, and swollen at times, and a week later the same joint being almost normal. While the inflammation in these joints at such times rendered them stiff and produced tender points on the external condyles, they were not especially painful on motion. The author suggests the importance of carefully studying the urine of patients suffering from migraine or other paroxysmal lithemic manifestations, as it is not uncommon to find lithemic headaches and attacks of gastric neurosis accompanied by a transient albuminuria, there being in such cases, as a rule, a beginning arteriosclerosis, death following in after-years from cerebral hemorrhage and uremic poisoning. The most potent factor in the production of lithemic paroxysms is paraxanthin, and the importance of its early recognition cannot be overestimated in the treatment of such conditions.

Connection between Diseases of the Eye and Diseases of the Teeth

In a paper under the above title (*Internat. Dental Jour.*, March, 1898), Charles Stedman Bull says that this connection, though well known to the laity, is too often overlooked by the physician. The eye-lesions which are supposed to be of dental origin are generally divided into two classes, those that are of reflex origin and those of an inflammatory nature. The author prefers to consider the subject under a different classification: *First*, lesions of the eye met with in the course of primary and secondary dentition. *Second*, lesions of the eye occurring in the course of abnormal diseased processes in the teeth. The modern views as to the unmistakable relation between diseases of the eyes and the teeth are formulated as follows:

1. Conjunctivitis of the phlyctenular variety is known to be intimately connected with teething, even with the second dentition.

2. It is undoubtedly true that keratitis, iritis, glaucoma, muscular paralysis, asthenopia, amblyopia without visible lesion.

supraorbital neuralgia, and exophthalmos with and without orbital cellulitis, are caused directly or indirectly by carious teeth.

3. When paralysis of accommodation appears during an attack of toothache it probably results simply from the lack of vigorous innervation on account of the distressing pain.

4. Muscular insufficiency or paralysis, with diplopia, may also be explained as paresis due to enfeebled innervation.

5. Spasm of accommodation and nictitation are both reflex symptoms frequently observed with toothache, as is also neuralgia of one or more of the branches of the trifacial nerve.

6. Amblyopia and amaurosis are by no means infrequent complications of carious teeth. Any positive ophthalmoscopic evidence should lead us to assume a common cause for the dental pain and the visual disturbance.

7. A spasm of the levator muscle of the upper lid leading to the appearance known as lagophthalmos has not infrequently been described in connection with pain in carious teeth.

8. Orbital cellulitis with development of abscess in the lower lid has been noted in caries of the teeth of the upper jaw with the development of abscesses round the diseased teeth.

9. Exophthalmos, or protrusion of the eye, may be caused by serious infiltration of the orbital tissue directly connected with disease of alveoli.

10. Conversely, pain in the teeth in the upper jaw is by no means an infrequent symptom in iritis and cyclitis, with severe neuralgic pain in the branches of the trifacial nerve; and toothache has been unmistakably recognized as one of the prodromal signs of glaucoma. R.

The Treatment of Fatty Heart

Treatment (No. 24, February 24, 1898) says there are few conditions of the cardiac muscle of so great interest as those in which its fibers manifest a fatty degeneration, or in which their action is impeded by fatty infiltration. The nature of fatty degeneration is still obscure. Starvation of the muscle from morbid impermeability of its nutrient vessels, profound anemia, depression of the trophic influence of the vagus, may all play a part.

The cases of fatty infiltration are more common and more amenable to treatment. An article in the *Revue méd.*, January 31, 1898, giving Dr. Pliques' treatment in this variety of cases, points out that the neces-

sary reduction of obesity in these cases must be done guardedly. But the long interval between meals advised by him ought to be modified by the force of the heart and the occupation of the patient. The patient need not be bedridden. If he does arduous work, he must not have as long intervals between meals as the one who can luxuriate. Dr. Pliques advises diuretic drinks, reduction of fluid food, dropping sugar and fat from diet, disuse of alcohol and tobacco, and regular exercise. Careful use of thyroid gland, half or whole one a day—the natural gland. Spartein hypodermically for a long time. Moleschott's average diet was 4 ounces of meat, $2\frac{1}{2}$ of fat, and $12\frac{1}{2}$ of carbohydrates daily. This average would need to be modified by the size and adiposity of the patient. Oertel, a profound and rational thinker, struck a happy mean between Banting and Ebstein, and prescribed $4\frac{3}{4}$ to $5\frac{1}{2}$ ounces of meat, $\frac{3}{4}$ to $1\frac{1}{4}$ ounces of fat, and 2 to 3 ounces of carbohydrates. On account of this great reduction of the carbohydrates, care must be taken not to restrict too much the other elements of food. Exercise on this low diet must be carefully regulated. Schott movements would be a good preparation for more active exercise. H.

Stricture of the Esophagus Following Diphtheria

At a meeting of the Berlin Medical Society, Dr. Rosenheim presented a very unique case (*La Méd. mod.*, July 2, 1898, p. 422). The patient was a child 5 years old. Two years previously it had severe scarlatina and diphtheria. During convalescence difficulty of deglutition set in, which, as was shown afterward, was due to a forming stricture. The absolute impermeability of the esophagus necessitated the performing of a gastrotomy, and the child was fed through the fistula. Dr. Rosenheim convinced himself that the obstacle in deglutition was not due to paralysis, but to an impassable stricture. An esophagoscopic examination showed no cicatricial tissue, no projection, only an infundibuliform contraction at the point of the second dorsal vertebra. The author dilated this point with a laminaria stick, and for the first time in two years was the child able to swallow some liquid. After progressively dilating with laminaria pencils, the author employed Schreiber's method, which consists in introducing a tube at the end of which is a little balloon; water is introduced through the tube, the balloon becomes dilated and is slowly withdrawn. The child is now perfectly well. R.

SURGERY

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Trendelenburg Method of Operation for Varicose Veins

Before the Société Médicale, M. Ledderhose (*Med. Press and Circ.*, Vol. CXVI, No. 20), referring to excision of one or more segments of the saphena vein in the treatment of varicose veins, stated that considerable improvement in the condition of the limb followed, although by reason of the collateral circulation new varicose veins arose after a time, these giving but little trouble, since the vascular dilatations were generally much less voluminous. Varicose ulcers improved much more quickly also after excision of the saphena veins. Edema of the leg, however, remained unaffected by the Trendelenburg operation. Considering this fact, Ledderhose tried longitudinal incisions in the integument of the limb after resection of the vein with some success. From two to five incisions, running from the knee to the ankle, and on the lateral portion of the leg, comprising the tissues down to the aponeurosis, were made. The incisions were made with the leg in the vertical position, in order to prevent much hemorrhage. Each incision was immediately closed with suture, a compress-bandage being then applied. L.

Nature of Glaucoma and Explanation of Curative Action of Iridectomy

In *Bul. et Mém. de la Soc. Franç. d'Ophthalm.* (1897, p. 232) M. Abadie gives these views: Glaucoma, showing slight cloudiness of vision and colored rings around flames, cannot be explained by permanent change of the sclero-corneal region, nor by effacement of the irido-corneal angle, nor by change of structure of the space of Fontana (Schlemm's canal). The disturbances, because transitory, must be due to the nervous system. The fifth nerve has been blamed, but wrongly, because it is a centripetal and not a centrifugal nerve. The trophic influence in the nutrition of the eye is connected with the sympathetic in the ciliary nerves. Majardie's and Mellen's classic experiment of cutting the fifth nerve within the cranium shows that trophic disturbances of the cornea no longer take place when the cervical sympathetic of the same side is simultaneously cut. Removal of the Gasserian ganglion is almost never followed by ocular complications. The sympathetic filaments accompanying

the fifth nerve which return to the eye by the ciliary nerves are the cause of the nutritive disturbances in the eye.

In glaucoma everything goes on as if there were an excitation, transient or permanent, of the vaso-dilator fibres of the vessels of the eye. This is the true point of departure of the disease, from which all the symptoms and phenomena proceed.

Increased tension is from hypersecretion of intra-ocular liquids due to over-full blood-vessels.

François Frank has made the important observation that the vaso-dilators of the eye have the same medullary origin and follow same course as the pupil-dilators. It is not astonishing then that the pupil is constantly dilated in glaucoma. Confirmatory proof is found in the action of mydriatics and myotics which bring on or dispel at will glaucomatous phenomena, these agents being simply dilators and constrictors of the vessels of the eye as they are of the pupil.

Atropine aggravates when it does not produce glaucomatous phenomena because of its vaso-dilator action. Eserine diminishes them because of its vaso-constrictor action.

Iridectomy acts without failure in all intermittent functional glaucomas.

The reason is this: In normal conditions, the nerve-currents controlling contractions and dilatations of the vessels run through the nerve-plexus in the middle of the iris where a number of ciliary filaments terminate. When the vaso-dilator current is excessive it acts uninterruptedly in this plexus. If then we cut out a portion of this plexus, as we do in iridectomy, the hyperexcitation of the vaso-dilating nerve-current ceases and order is re-established, because of removal not of the iris, but of the plexus which it contains.

The proof of the theory lies in this: If in an acute glaucoma, only the peripheral portion of the iris is removed in the iridectomy, or only the pupillary sphincter, without removal of the median portion, there is no cure. On the other hand, if the median portion is removed and the peripheral portion is left, the cure is complete. Simple incision through the whole width of the iris effects the cure without removal of any portion of the iris. Mere sclerotomy is not effective if it does not include the iris (iridectomy); besides, a section through the cornea that includes the whole width of the iris is effective.

Chronic glaucoma differs in that the intra-ocular tension is developed slowly, entailing at length glaucomatous atrophy of the papilla, without provoking any reac-

tional symptoms. Iridectomy does not help this kind of glaucoma; but the cause is the same, since atropine and eserine produce same action as in acute forms, the former always making worse, and the latter and pilocarpine always improving. Myotics, regularly employed, in fact, are the only remedies for the chronic form.

Why does iridectomy not benefit chronic as well as acute forms? The answer is that in the acute forms the vessels of the anterior segment of the eye enter into play, the vascular dilatations taking place in the ciliary processes and iris regulated by the iris plexus, whereas in the chronic form the dilatation of vessels occurs only in the choroidal network, whence the hypersecretion would be much less active, the tension would increase much more slowly. The vaso-dilator nerve-filaments for this network of vessels not being the same and not terminating in the iris plexus of nerves, section of the iris plexus of iridectomy would not benefit.

In those other cases of simple chronic glaucoma which neither iridectomy, sclerotomy nor myotics help, resort might be had to section of the cervical sympathetic, as in cases of goitre. The author predicts this section will play a great rôle in ophthalmology. Section of the ophthalmic ganglion would also probably give good results and might be attempted in spite of the dangers in place of enucleation in painful glaucoma with loss of vision.

The lips of the wound in simple sclerotomy heal up too rapidly without undergoing cystic degeneration, so that the liquids accumulate as before. But a piece of catgut or a conjunctival flap might be left between the lips of the wound to cause permanent cystic degeneration and ensure constant drainage of hypertense liquid.

H.

Subcutaneous Tenotomy as an Aid in the Reduction of Fractures

The fact that many practitioners seem to regard fractures as injuries belonging to a department of surgery in which no advances have been made, they thus continuing the routine measures of the last generation, leads J. B. Roberts (*Phila. Med. Jour.*, Vol. II, No. 10) to call attention to tenotomy as an aid in the reduction of fractures with displacement, it not being employed as often as it should be. It is simple and effective, and the writer is convinced that its adoption generally will result in lessening the number of cases of deformity after fractures, especially of the tibia and fibula, it preventing over-riding and deformity. It is essential that the

whole tendon be cut, for if a few fibres be left undivided the operation will fail of its object. The pain due to spasmodic contraction of the calf-muscles will be absent after such a tenotomy and the patient's comfort thereby greatly increased. It does not appear to impair the subsequent power and usefulness of the foot, and it obviates the necessity for complicated fracture-appliances to overcome spasm of the calf-muscles. The tilting up of the inner fragment in some fractures of the clavicle could probably be avoided also by subcutaneous tenotomy of the clavicular portion of the sterno-mastoid. The upward displacement of the olecranon after fracture might be managed in the same way, if it were difficult to obtain and maintain coaptation. It would probably be available in fractures of the upper part of the femoral shaft, when the ilio-psoas muscle flexes and everts the upper fragment. The operation here would probably require open incision and inspection of the parts in order to divide the tendon without injuring important structures in its neighborhood. It would perhaps take the place of cutting down upon and wiring the fragments in these troublesome fractures. The writer also suggests the possibility that intra-articular operations for bringing together the fragments in transverse fractures of the patella may be avoided by a free tenotomy and myotomy of the four-headed extensor muscle of the thigh.

L.

Adynamic Obstruction of the Bowels

W. H. Myers (*Int. Jour. of Surg.*, Vol. XI, No. 3, p. 63) directs attention to obstruction resulting from adynamia of the intestines, the condition being one of relaxation and complete loss of muscular power and inability in the muscular tissue to pass on the contents of the bowel. Such cases are due to paralysis of some segment of the intestines, the peristaltic movement ceasing at that point. The writer refers to the writing of Henrot, in which all cases of paralysis of the intestine leading to obstruction are divided into three classes: 1. Direct paralysis of a segment of intestine due to changes in its walls. 2. Indirect paralysis depending upon reflex nerve-action. 3. Paralysis of the bowel in a general affection of the nervous system. Referring to the first class, Myers cites a case in which a knuckle of intestine had become strangulated in a hernia, and when reduced by operation, the symptoms of strangulation persisted, the patient dying. Upon autopsy, no mechanical obstruction or peritonitis was revealed. In cases of severe abdominal contusion with shock, assuming

that there is no visceral lesion present, the opinion of the writer is contained in the following proposition: that tympanitis and constipation from temporary paralysis of the muscular coat of the bowel are the consequence of shock or concussion of the cyclo-ganglionic nerve-centers. The ileus which occurs in general peritonitis is like the dilatation of the intestine, the consequence of paralysis of the muscular coat, a relation observed to exist whenever muscular fibers are subjacent to serous membranes. When the peritoneal coat of the intestine of a living animal is irritated a local relaxation of the walls of the canal is excited, and a swelling is formed by the relaxed coats of the bowel occupied by its gaseous contents. The following points are offered by the writer as a means of differential diagnosis in obstruction of the small and large intestines: As to the former, the pain and other symptoms are more acute and the course more rapid; vomiting is early and urgent; urine scanty; distension is early, but not excessive and affects the small intestine alone. Regarding the large intestine, the pain and other symptoms are less acute and the course more gradual; vomiting is long delayed, or of but little severity; urine abundant; distension occurs only after an interval, and reaches an extreme degree.

Hydronephrosis Due to Floating or Movable Kidney Permitting a Kink in the Ureter in the Erect Position

J. B. Harvie, of Troy (*Annals of Gyn. and Ped.*, Vol. XI, No. 6), states that four years ago a patient came under his observation suffering from recurring attacks of hydronephrosis. Examination detected a tumor in the right lumbar region, very tender, extending well up toward the under surface of the liver and across beyond the median line of the abdomen. Temperature, 101° F., and corresponding constitutional disturbance, with great pain. She had suffered at intervals of a few weeks for eighteen months, or since the birth of her child. The attacks usually lasted about twenty-four hours, she having been seen in as many as eight attacks by the author. The patient was placed under ether and the outline of the tumor carefully determined; that it was a kidney, there was no doubt, its elasticity being clearly determined. This mass would all disappear suddenly, with a complete absence of all general disturbance, the patient passing three pints of urine within two hours. The attacks occurred about every seven or eight days. The kidney in the interval descended in a

standing position into the iliac fossa and could be pushed up under the ribs. The patient becoming tired of the attacks, willingly submitted to operation. The kidney was exposed by the lumbar incision, the portion presenting in the line of incision having a shrivelled and collapsed look. The immediate impression was extirpation, but on hauling it forward into the wound, and after making a cross incision in the abdominal wall, it was found to travel up and across (lying on the spinal column posteriorly) in the form of a crescent. Traction on the exposed portion created an impulse which could be felt on the opposite side. This led the author to believe that he was dealing with a horse-shoe kidney. The dependent portion was pushed up and attached in the ordinary way and the incision closed. No further trouble followed, the patient being seen frequently during the two years following the operation, perfect health, with no discomfort, being the invariable report. In conditions where the attachments of the kidney will allow sufficient descent to cause torsion of the ureter, damming back of the urine must inevitably follow, and such a condition, allowed to persist, must unquestionably result disastrously. As the pelvis of the kidney was never intended as a storehouse for the urine, the author queries: May not the discomfort and pain and reflex gastric disturbance which characterize the presence of a movable or floating kidney be due as much to the over-distended kidney as to the lugging or weight of the organ on its loose attachment? L.

Indication for the Operative Treatment of Hepatic Tumors

Terrier and Auvray (*Brit. Med. Jour.*), in considering the indications for operative interference in cases of tumor of the liver, point out that the opportunities offered to the surgeon of intervening in such instances must be regarded as very rare. In most cases of hepatic tumor the growth is secondary, and an index of generalization of disease, starting in some organ more or less remote from the liver. This conclusion applies not only to malignant disease—such as carcinoma and sarcoma, but also lymphadenoma, which ought to be considered in a large majority of cases as a local manifestation of a general malady needing an exclusive medical treatment. In most cases of primary cancer of the liver there is a local multiplicity—that is to say though the liver is the only organ affected, the growths are multiple and disseminated

throughout the parenchyma of the gland. It is a necessary condition of success for the removal of any hepatic tumor that the growth be a single one and also that it be situated at a part of the liver that is readily accessible. It would not be justifiable to attack any tumor deeply situated in either of the two large lobes of the liver. A condition favoring extirpation would be the presence of a pedicle, and the existence of one or several growths would be facts of the first importance.

The removal of a tumor presenting the above-mentioned favorable conditions for operative interference would still be contraindicated if such tumor had contracted close adhesions with the abdominal wall of the surrounding abdominal viscera. The authors conclude that a hepatic tumor, whether benign or malignant, may justifiably be removed if it be single, readily accessible, possessed of a pedicle, and free from adhesions to surrounding structures. The prospects of success are least favorable in cases of cancer on account of the probability of relapse. In the liver, however, as in other organs, a center of infection constituted by a malignant growth ought to be suppressed, and even in cases in which extirpation would be impossible a palliative operation—cholecystostomy, for example—would be indicated, with the object of relieving functional disturbances, and so of prolonging the life of the patient.

S.

A Contribution to the Study of Hemorrhagic Infarcts of the Lung

Dr. Akira Fujinami (*Arch. f. path. Anat. und Phys. und klin. Med.*, Berlin, 1898, II, 61 and 193) elaborately reviews the literature of the present subject, and recites a large number of experiments as carried out by himself. The conclusions reached are as follows: The infarct in the lung is caused by circulatory disturbances in the capillaries, these disturbances being particularly strong in some certain circumscribed area. This intense circulatory disturbance can be produced in previously healthy animals by mechanical emboli only when these emboli are in certain positions and the blockage is absolute. The lung-infarct occurring in man has a longer existence than that produced experimentally in animals, and is almost always complicated by contemporary lung-disease, consequently it shows a somewhat different picture from the artificial infarct. But nevertheless it is dependent for its existence upon circulatory disturbances in the lung-capillaries, and the exciting cause of this intense local disturbance is the blockage of the

supplying artery by an embolus. But there are other causative influences which must be taken into consideration, viz.: The hemorrhagic infarct of adults usually occurs in those people who suffer more or less from chronic lung-affections, because in such cases the circulation of the lung is sure to suffer. Secondly, the production of the emboli is caused by disease, which undoubtedly has a detrimental influence on the circulation of the lung and helps to produce conditions favorable for the formation of the infarct. It is because of these associated pathological conditions that an infarct in man is caused by such a small and insignificant embolus that it is often overlooked, whereas to produce an infarct in a healthy animal many tight-fitting emboli must be introduced into the vessels. But the main point, both in animals and men, is that within a localized area there must be an intense pathological change in capillary circulation, and it is possible to produce this change by emboli alone, if the emboli are of proper form and size and properly placed.

T.

Detached Retina

Hortsmann (*Arch. f. Augenheilk.*, Vol. XXXVI; *ref. in Brit. Med. Jour.*, June 4, 1898) gives the results of his observations on thirty-five cases of detached retina. In five of his cases there was complete recovery of sight; in two the retina resumed its normal position, but was functionally imperfect; in another two cases the retina returned to its normal position only for a short time. In eleven cases there was partial detachment, and in fifteen complete detachment. After a careful examination of his cases he comes to the conclusion that every case of spontaneous detachment of the retina is in the first instance due to an affection of the uveal tract. It appears that a shrinking of the hyaloid membrane takes place, caused by the transudation of fluid from the blood-vessels. The fluid is not driven into the substance of the retina, but passes between the choroid and retina in this manner a detached retina is produced. If the detachment is large, the raised part will probably tear, and the torn portion can only regain its normal position when the shrinking of the hyaloid membrane has developed to a definite extent. The slow process of transudation retards the shrinking of the hyaloid membrane, and consequently the replacement of the torn retina. The diminished tension of the eyeball, which is frequently met with in large retinal detachments, is an argument in favor of the lessened volume of the hyaloid membrane. Spontaneous cure in cases of retinal de-

tachment with return of visual powers were only observed in those cases in which the detached portion had not completely lost the perception of light, and in which the subretinal exudation had not become absorbed; in these cases, also, the detached portion was not torn, nor was there any alteration in the ocular tension. Instances also occurred in which the detached portion assumed its normal condition, but remained functionless; the subretinal exudation had become absorbed in these cases, but there was no diminution in ocular tension, nor any torn portion of retina to be observed. If a torn retina is associated with minus tension, the prognosis is very bad. All operative influence is useless; the least harmful perhaps is tapping the subretinal exudation by scleral puncture. A few cases have been recorded in which replacement of the detached retina took place after this operation. All methods are to be deprecated which cause injury to the retina or ciliary body. G.

Eucaine in Gastro-jejunostomy

Wallis (*Brit. Med. Jour.*, May 7, 1898), in the operation of gastro-jejunostomy for pyloric carcinoma, injected about 3 iv of a 4-per-cent. solution of eucaine under the skin along a line running from the ensiform cartilage to the umbilicus. The knife was used immediately, and general anesthesia was not required until about twenty minutes after. An incision five inches long was made, and the peritoneum was reached and divided. The stomach, with a large growth at the pylorus, was found and pulled forward. The gastro-hepatic omentum was found to be extensively infiltrated with the growth. The transverse colon was then drawn to the right and the jejunum found and pulled forward. Up to this period the patient had felt no pain and spoke cheerfully to those around her. She now began to feel a little faint, so ether was administered, but the steps of the operation were not discontinued. G.

Practical Points in the Management of Hernia in Infancy and Childhood

Before the Section on Pediatrics, New York Academy of Medicine, January 13, 1898, W. B. Coley (*Pediatrics*, Vol. V, No. 5) presented a paper on the subject, stating that the condition most frequently mistaken for hernia was hydrocele of the cord. A differential diagnosis could be made if the following characteristics of hydrocele of the cord be borne in mind; a globular, oblong swelling, tense and cystic to the feel, usually situated just outside of the external

ring, and often allowing of being pushed up as far as the internal ring. The history of the swelling would make it possible in all cases to differentiate it from strangulated hernia. When a positive diagnosis had been made, Coley believed that a well-tempered and light steel spring covered with rubber tubing, and with a pad of wood, made the most satisfactory truss for infants. The pad of the truss should be above the pubic bone, and should rest over the internal ring. It should be the rule to have the truss kept on day and night, and only removed for cleansing the skin. The truss should not be left off until at least two years had elapsed since the hernia was last seen down. This did not insure a cure in all cases, but if the hernia returned after this time it was probably better to operate. The number of children not cured by trusses was between 25 and 30 per cent.; hence surgical interference was necessary for an ideal cure of hernia in many children. Where there was no proper co-operation on the part of the parents, the operation should be done earlier than in one or two years' time. The operation was more difficult in children than in adults, the tissues being more delicate and there was greater danger of injuring the cord. Coley had had a mortality of one-fourth per cent. in upwards of nine hundred cases. L.

A New Method of Operative Treatment for Syphilitic Strictures of the Rectum

N. A. Sokoloff (*Centralbl. f. Chir.*, Vol. XXIV, pp. 619-621, 1898) says there are two methods of operative procedures at present practised for relief of syphilitic stricture of the rectum, both of which are capable of curing the trouble, but both of which possess certain disagreeable traits. One is the extirpation of the stricture, a method recently introduced by Sonnenburg, and the other is the longitudinal incision. The operation of Dr. Sokoloff is a modification of the latter, and is essentially the application of the Heincke-Mikulicz pylorus operation to the rectum. It consists in making a longitudinal incision through the stricture, and instead of leaving the wound open to heal by granulation, he inserts sutures so as to convert the longitudinal incision into a transverse one, and thus gives the wound a chance to heal by first intention. If primary union is accomplished the advantages of the operation are plain and the worst that could happen is for the stitches to pull out, which would only leave the wound open to granulate up as in the older method. The rectum is approached by resecting the coccyx and removing a portion of the sacrum. T.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Rupture of Spina-bifida Sac; Four Cases, Three during Childbirth

Reflecting that spina bifida is the commonest form of congenital anomaly of the spine, occurring more than once in every thousand births; that the sac is frequently devoid of a covering of skin over the larger portion of its surface, and that this exposed membrane is extremely thin and delicate, Aug. Thorndike (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 8, p. 178) studies this little group of cases of rupture from a therapeutic standpoint. The patient in Case 1 died two days and one-half after birth, before operation could be attempted, presumably from direct septic infection of the spinal meninges.

The patient in Case 2 was operated upon twenty-four hours after birth, the sac being incised, a small quantity of reddish fluid evacuated, the healthy skin incised around the base of the tumor and the dissection carried down to the sac-wall, which was cut off and the edges tightly stitched together with catgut, the wound in the skin being closed by a second row of catgut-sutures. Child died thirty-one hours subsequently, presumably of septic meningitis also. In Case 3 the patient was operated upon five hours after birth, the result being successful. A simple meningocele, pedunculated and collapsed; its base was surrounded by an elliptical incision, the sac-wall tied with a silk ligature, cut off, and the skin-wound closed with four silk ligatures. The wound united by first intention, there was no shock, and the baby nursed well. In Case 4 the baby was 11 days old; the tumor was the size of half a large orange, sessile, and offered no hope of success by operation. The author favors early operation in order to secure the meningeal cavity from infection and leakage.

The choice of the method of operating necessarily depends upon the size and shape of the tumor as well as upon the variety of spina bifida to be dealt with. In meningoceles the operation of excision can be performed with comparative safety, especially if the opening into the spinal canal be small enough to close by a ligature and the skin be sutured over it. In meningo-myeloceles the sac should be opened and the nerves separated from it and replaced before closing off the spinal canal; the neck of the sac should either be sutured or ligatured and the skin closed over the stump. Should it

be impossible to separate from the sac-wall the nerves and cord, the collapsed sac should be tightly sutured and covered with skin by a quick plastic operation. It is suggested that if rupture attends, a sterile dressing could be applied at once in such a way as to stop the leak of cerebro-spinal fluid, the wound being thus kept surgically clean, favoring more frequent recoveries. Upon the accoucheur, therefore, frequently rests the chief responsibility, action being demanded promptly. From an obstetrical standpoint, it is interesting to note that of the three cases which ruptured during birth, two were born before medical aid could reach them, the unusually strong pains of a rapid second stage probably causing the sac to burst. L.

New Procedure for Manipulating the Cord Encircling Neck of Child

M. S. Zolidès is credited by *Sem. mèd.* (June 4, 1898, p. 256) with a new method of dealing with the encircling cord when the usual method of liberating it over the head fails and pairs of forceps are not handy for clamping and cutting between them. He has twice manipulated the shoulders through the coils of cord. The head being born, the anterior shoulder is next disengaged from the vulva and the hand, arm, and shoulder are made to glide under the cord and beside the head to displace the cord downwards into the axilla. The same thing is then done with the other hand, arm, and shoulder, and the cord can then be carried down over the body rapidly as the birth proceeds. M. Rivière has also employed this method in one case. Both have employed it only with multiparæ. It is yet to be observed whether it can be easily employed in primiparæ. H.

Heart-disease and Pregnancy

Prof. Pinard (*Med. Press and Circ.*, No. 3065, p. 103) considers the relation of heart-disease to pregnancy and delivery, and the influence of the puerperal state on cardiac affections. Two women who had but just been confined in the wards of the hospital furnished the opportunity for examination and lecture. The first patient had suffered from acute articular rheumatism, heart-disease resulting. She had seven normal pregnancies, and it was only at the eighth that edema and dyspnea of a temporary nature appeared; at the ninth, however, the latter became much more aggravated, and threatened the life of the patient. The second patient came to the hospital for her tenth confinement. She presented symptoms of mitral disease, and gave a history of acute

rheumatism many years previously. The author propounds the following questions: 1. Can pregnancy of itself provoke a cardiac affection? 2. Can pregnancy produce an affection of the endocardium? 3. What is the influence of cardiac disease on the development of pregnancy? In answer to the first question, he goes so far as to say that pregnancy cannot provoke any heart-trouble *ab initio*, although many accoucheurs are of the opinion of Larchey that the left ventricle becomes hypertrophied in pregnant women. As to the second question, the author maintains that pregnancy cannot in any way influence a healthy endocardium. Considering the influence of the puerperal state on heart-disease, the statement is made that no matter what may be the cardiac affection, if the kidneys are not affected, there is compensation, and the pregnancy can reach its termination without giving rise to any accident. As it is impossible to know beforehand whether the kidneys will or will not become diseased, and whether there will or will not be compensation, it is advised that women affected with heart-disease should not marry. Regarding the influence of cardiac disease on the development of pregnancy, it has been shown by Durosiez that in cardiac disease the menses are irregular and premature delivery frequent. It has also been noted that the placenta is more or less white in hue. The prognosis should be influenced by the state of the kidneys. As to treatment, absolute rest, milk diet after the fourth month, and from time to time digitalis in infusion. If one be called to a woman suffering from gravido-cardiac accidents, rapid evacuation of the uterus and blood-letting is imperative, the latter especially when acute edema of the lung is present.

L.

A Rational Method of Relieving Asphyxia Neonatorum

Dr. S. Stringer (*Georgia Jour. Med. and Surg.*, June, 1898, p. 377) has accidentally discovered a method for relieving asphyxia in the new-born which he claims to be very effective and which certainly seems rational. An asphyxiated infant must die, unless the blood becomes oxygenated very soon; the child's sensorium has become so deadened or blunted as not to respond to the irritation of the atmospheric air, the application of cold water, or other methods of inducing respiration; yet fetal life still remains and would continue, were it not that the placenta has become detached, and thereby respiration or oxygenation of the blood through the medium of maternal circulation cut off. The author's method consists in

delivering at once the placenta and spreading it out with the maternal surface cleansed of all clots and membrane, so that a free access of air can be had. Should it be necessary to use water for cleansing the maternal surface from clots, it is advisable to have the water warm, as it is remarkable how quickly the use of cold water will chill the child. In several cases this method proved effective when all other methods failed.

The author was led to use this method by the following incident: He once delivered a woman of a fetus between 4 and 5 months old. He put the fetus and the placenta away, preliminary to saving it as a specimen. When he came to examine it several hours later, he found to his astonishment that the fetal circulation was still going on, with pulse at the wrist very perceptible. This was proof to the author that exposure of the placenta to the air is an excellent means for maintaining the circulation in the child.

As soon as respiration occurs, which has been delayed as long as twenty-five minutes in some of the author's cases, the circulation is diverted from the placenta to the lungs, and pulsation in the cord ceases in a few seconds, when the child is to be separated from the placenta, as in ordinary cases.

R.

Puerperal Gangrene

Magnus A. Tate, before the Cincinnati Obstetrical Society (*Gail. Med. Jour.*, Vol. LXVIII, No. 4, p. 199), presented the history of a unique case of puerperal gangrene, the patient being a primipara, aged 25 years. A history of typhoid fever three years previously was obtained. When about six months pregnant, edema of the eyelids and feet was noticed, which subsided under treatment. Two weeks subsequently convulsive seizures appeared, followed ten days later by premature delivery of a still-born child. Ten days later again bluish patches appeared upon each ankle, accompanied by severe pain in both feet and ankles. The bluish discoloration spread rapidly over both legs nearly to the knees, there being no line of demarcation present. The feet had a numb, woody feeling. The urine was loaded with albumin. The temperature increased rapidly to 104°, undoubtedly due to infection. There was an odor perceptible of dead tissue. Death followed several days later. Several hours before death there was a marked disintegration of tissue, a large slough appearing on both legs posteriorly. A complication which developed some seven days subsequent to confinement was that of bed-sores.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Iodides in the Treatment of Heart-disease

Prof. Vierodt (*Centralbl. f. inn. Med.*; ref. in *The Hospital*, Vol. XXIV, p. 130, 1898) has recently reported the results of administering iodides, 15 to 25 grn. a day during long periods—many months—to patients suffering from arterio-sclerosis. Some of the patients were free from cardiac distress, but the majority suffered from angina pectoris. The effect was undoubted. In many cases the ability to work, which had been lost, was regained, and patients who had suffered from cardiac pain and faintness, and been unable to walk on a level floor, could now walk upstairs. Vierodt thinks that the morbid process in the blood-vessels, which would otherwise always show a progressive character, is brought to a standstill, and that consequently the heightened blood-pressure is gradually lowered, which would provide perfectly for the re-establishment of the circulatory function for a long time. The clinical phenomena do not indicate any retrogression of the vascular changes.

S.

Variation of Strength and Consequent Unreliability of the More Common Official Preparations

H. Beates (*Pa. Med. Jour.*, June, 1898) questions if the present materia medica supplies the means by which the modification of the natural tendency and course of disease, as affected by its use, can be definitely formulated and an exact science demonstrated; the fact is, the percentage of any and all active principles of the entire vegetal materia medica varies greatly; moreover, no two roots, stems, leaves, fruits, and seeds contain a uniform percentage of these derivatives. Therefore, how can any tincture, infusion or extract represent a dose of standard strength, especially when prepared as the U. S. P. directs?

Opium, for example, contains from 9 to 14 per cent. of morphine, and the U. S. P. provides a tincture representing 10 per cent. of the crude drug; manifestly, then, the conventional dose of tincture of opium embodies 10 per cent. of from 9 to 14 per cent. of morphine, with the addition of varying proportions of some thirteen unstated minor principles, e. g., codeine, thebaine, etc. No wonder, then, that the lit-

erature of therapeutics is filled with diverse views concerning the action of opium.

There are, again, about nine different principles which have been found in digitalis. How much, for instance, of any one of these principles have we in infusion of digitalis?

It is thus necessary to secure to the profession a materia medica pure, reliable, and of an unvarying and definite strength; the science of therapeutics depends upon its means; therefore active principles, chemically pure, should be attainable.

In Acute Gonorrhea

Dr. Duquain has used the following injection with good results (*Cent. f. d. ges. Therapie*, p. 443, 1898):

Methyl Salicylate, artificial.	1.0 (mxv)
Bism. Subnit., or better,	
Salicylate	10.0 (3ijss)
Liquid Vaseline	100.0 (3iijss)
S. Shake well before each injection.	

R.

Fluid Extract of the Ciliary Body

A preparation called *Extractum Corporis Ciliaris Liquidum*, made from the ciliary body of the ox, with the addition of a little resorcin as a preservative, is recommended by L. Dor (*N. Y. Med. Jour.*, LXVIII, p. 127) in certain forms of sympathetic ophthalmia in which the aqueous humor is clouded with albuminous and fibrinous material from defective filtering action on the part of the ciliary body, while at the same time chemical changes take place in the vitreous body whereby it becomes softened, and fibrinous masses are attached to the crystalline lens and the iris. The extract is used both by instillation and by subconjunctival injection. For instillation, a drop of the solution (strength not stated) may be used every two hours.

F.

Hydrochlorate of Pilocarpine in Cure of Croupous Pneumonia

Carl Sziklai, of Hungary, contributes an original article to *Bul. méd. des Vosges* (No. 47, April, 1898), in which he claims croupous pneumonia and croupous laryngitis to be typical diseases of croupous type, and both to be amenable to pilocarpine, so that, with the author, they have never caused death since commencement of its use in 1892. He insists on distinction between croupous laryngitis and true croup. The latter, being diphtheritic, is properly treated by serotherapy. The former does not yield to serum treatment.

For pneumonia, he claims a shortening of the period of duration to about one-half

the average. He refers to the welcome his reports received at the international medical congress in Rome, 1894, and Moscow, 1897.

In the usual methods of treatment, pneumonia has a mortality of 16 to 24 per cent., giving 40,000 deaths yearly in Hungary, 100,000 in France, and 350,000 in Russia. In all except alcoholics, he almost never has a fatal case of pneumonia besides shortening the duration of the attack.

Strümpell's dictum, "Croupous pneumonia gets well in spite of any treatment," few physicians in practice will take seriously as a rule of therapeutic conduct.

To children under 1 year the author gives 1 to 1½ ctg. (.155 to .227 grn.) a day.
 1 to 3 yrs., 2 to 3 ctg. (.32 to .47 grn.) a day.
 3 " 6 " 4 " (.62 " " " "
 6 " 10 " 5 to 6 " (.77 to .93 " " " "
 10 " 15 " 6 " 7 " (.93 " 1.085 " " "

In very pressing cases, chiefly in croupous laryngitis, when there is difficult breathing and prompt intervention is needed, a hypodermic of 1 to 1½ ctg. (.155 to .227 grn.) of pilocarpine is given twice a day. To adults 8 to 10 ctg. (1.24 to 1.55 grn.) a day are given. Dr. Schüderberg (Sweden) has given 12 ctg. (1.86 grn.) a day. The author contends he has never had a case of poisoning from it and has not had a case reported to him from the use of such doses.

In cardiac diseases he never orders pilocarpine.

He inquires of Prof. Laudouzy, of Paris, on what grounds he ostracizes pilocarpine in such words as these: "Pilocarpine is an agent excessively dangerous, deserving to be relegated into oblivion." He expects Prof. Laudouzy to go over the ground again and perceive his error. H.

Apomorphine and Its Uses

Dr. Campbell says (*Med. Rec.*, July 30, 1898) that besides the other uses of apomorphine he found it the most invaluable remedy in hysteria—1-10 grn. hypodermically. "There are few clinical pictures which present such wonderful and sudden contrasts as that of a patient with teeth clenched, muscles rigid, with opisthotonos, or throwing herself and her anxious attendants about, transformed in three or four minutes—by 1-10 grn. apomorphine hypodermically—into a docile, relaxed, limp, and vomiting individual, her pride and alleged pains gone together, and a restful sleep in store for her after the emesis is over." It may also be given by the mouth in doses of 1-10 to 1-5 grn., and a satisfactory though less prompt result will be obtained. On the same page Dr. Abrahams

writes that he is fully in accord with what Dr. Babcock (*A. M.-S. BULLETIN*, June 10) and Dr. Visanska (*Med. Rec.*, July 2) say about the virtues of that neglected drug, and calls attention to an additional condition in which it is of the greatest value, namely, whooping-cough. He says that it palliates most of the distressing symptoms, such as the frequency and severity of the paroxysms; it induces better rest at night, and, paradoxical as it may seem, it overcomes in some instances the tendency and inclination to vomit. The formula the author employs is that recommended by Whittaker for the treatment of acute bronchitis:

Apomorphine Hydrochlor..... grn. ss-i
 Ac. Hydrochlorici Diluti..... gtt. x
 Syrupi..... 3 ss
 Aquæ Menthol Pip. Od..... 3 ij
 S.—A half to one teaspoonful every two hours.

This is with the author the staple remedy in whooping-cough, next to sunshine and air, and is to be recommended as the very best on the long list of remedies for pertussis. R.

Application of Ichthyol in Maritime and Tropical Practice

Dr. Leo Leistikow writes (*Archiv. f. Schiff- u. Trop.-Hyg.*, 1898, No. 2) on the use of ichthyol on board ship and in the tropics. The author makes use of from 2- to 5-per-cent. aqueous solutions; powders containing from 0.5 to 1 gme. of ichthyol with 10 gme. of magnesium carbonate and 20 gme. of talcum; and paste, composed of from 1 to 3 gme. of ichthyol, 2 gme. of silica, 10 gme. of zinc oxide, and 28 gme. of lard. Infusorial earth has also been found to constitute an excellent basis for making a paste. Another very simple and satisfactory form of using the remedy is in bougies each containing ichthyol 3 parts, wax 2 parts, and adeps lanæ 5 parts. A collodion varnish may be made also, containing from 25 to 33 1-3 per cent. of ichthyol. For internal use it was found best to administer from 10 to 25 drops of a 33 1-3-per-cent. aqueous solution of the remedy after meals, with a copious quantity of fluid. Among the cutaneous affections which are more generally met with on board ship and in the tropics, and in which ichthyol may be advantageously applied, are circulatory anomalies, neurotic dermatitides, local and general hyperidrosis, urticaria, and multiform and nodal exudative erythema, besides all kinds of herpes, including zoster. Internally the medicament yields excellent results in congestive and static hyperemia, and angioneurotic and

seborrheic rosaceæ. The static anomalies of the hands and feet, and of the mucosa of the pharynx, anus (hemorrhoids), the female genital organs, intestinal canal, etc., are greatly benefited by the internal administration of ichthyol because of the improvement in the muscular tonicity of the blood-vessels. Ichthyol pastes (2- or 3-per-cent.) and hot-vapor applications are, however, very useful auxiliaries in these. Eczema is the most frequent skin-disease met with in the tropics. This disease, particularly the moist, macular, papular, and crusty forms, ichthyol applications, either hot or in the form of powder or paste containing 2 per cent. of the remedy, rapidly heal. Even pruriginous and psoriatic eczemas accompanied by thickening of the skin are softened by the hot ichthyol applications and ichthyol sticks. Acute traumatic dermatitides, and toxic and venomous dermatitis are also successfully treated. Infectious dermatitides, especially impetigo vulgaris, folliculitis, furuncles, syccosis, and erythematous lupus, promptly react on the local application of ichthyol. Moist bandages or paste are useful in the later treatment of ulcera molliæ and serpiginosa, as well as in lupus vulgaris after previous cauterization or excision. The plaster-mull is also recommended in actinomycosis. Oriental or Biskra boils require to be painted with pure ichthyol or ichthyol plaster-mull, after removal of the crusts. In erysipelas, the remedy may almost be regarded as a specific. In the treatment of leprosy, ichthyol has become indispensable. Indolent leprosy ulcers are frequently dissipated by ichthyol plaster-mull, and the general condition, and particularly the nourishment of leprosy patients, are decidedly improved by the internal administration of the medicament. Elephantiasis is effectively treated, in the erysipelato-lymphangitic stage, with ichthyol-collodion or hot applications, and large doses of the remedy internally. The hot bandage, paste, or a mercury-ichthyol-mull is useful in edematous, atonic ulcers, and in the ordinary necrosis, and particularly in decubitus a rapid cure is also effected by the paste or ichthyol-mull. Ainhum, a disease of the small toes, and frequent in negroes, is readily healed by the application of hot ichthyol applications or ichthyol-collodion, after previous early incision. Ichthyol is also indicated for use in the bites of tropical insects.

The treatment of diseases of the genital organs in maritime and tropical practice must be as simple as possible, and in these ichthyol has also proved to be indispensable. In acute gonorrhea in the male, several injections are daily made of 1- to 5-

per-cent. ichthyol solutions, and a cure rapidly ensues. In anterior and posterior subacute and chronic gonorrheas irrigations of warm 2- to 5-per-cent. solutions are suitable, and the same are serviceable in mild, chronic cystitis. In obstinate infiltrations of the anterior part of the urethra, painting with a 10- to 12-per-cent. ichthyol solution is useful—for the posterior part, instillations of 8- to 10-per-cent. solutions are made every two days. For prostatitis ichthyol suppositories or ichthyol-glycerin (5-per-cent.) per rectum, are suitable, and for epididymitis and orchitis moist ichthyol bandages, or ichthyol-collodion or plaster-mull, are applicable. Urethritis in the female is best treated with 5- or 10-per-cent. injections, and vaginal gonorrhea requires tampons of ichthyol-petrolatum (15- to 20-per-cent.). For the treatment of cervical gonorrhea, 5- or 10-per-cent. ichthyol bougies are employed. For the treatment of inflammations and particularly in the gonorrhea of the uterus and its adnexa, the application of ichthyol sticks to the abdomen is a useful adjunct to the ichthyol tamponade of the vagina.

In internal diseases, ichthyol has also proved very serviceable, on account of its tonic, vascular-constriction effect, and it has been recommended by many in gastrointestinal catarrh, in bronchitis, and also in the first stages of pulmonary tuberculosis. Even in severe vomiting it has been found useful, and hence it is indicated for use in sea-sickness. Its beneficent effect in enteritis, internally as well as in enema with a 2-per-cent. starch solution, indicates it to be of value in dysentery also. Gonorrheic and rheumatic polyarthritides, as well as uric arthritis, yield to large doses of ichthyol in connection with hot ichthyol-bandages. The employment of ichthyol is also advocated in malaria, several cases having been advantageously treated by it. Ichthyol is also a very valuable application in all cases of minor surgery. F.

Paroxysmal Insufficiency of the Phrenic Nerves, and Its Treatment

Wernicke, of Breslau (*Sem. méd.*, XVIII, p. 134), has observed, in several neurasthenic and hysterical subjects, attacks of anguish or asthma, due to functional weakness of the two phrenic nerves. The asthmatic form was the more serious, and resembled bronchial asthma, from which it was distinguished, however, by its briefer duration as well as by the absence of certain characteristic symptoms, such as expiratory dyspnea, pulmonary dilatation, lowering of the diaphragm, spasms of the muscles of expiration, râles, and catarrhal

expectoration. The attack of asthma, due to insufficiency of the phrenic nerves, is ushered in brusquely. During the dyspneic attack the mouth remains wide open, the nostrils are dilated, the head thrown back, the auxiliary muscles of respiration act rapidly, and the diaphragm remains motionless; the attack lasts but a few minutes. The existence of neurasthenic symptoms, or of the characteristics of hysteria, permits it to be readily distinguished from an attack of bronchial asthma. In certain rare cases, when the trouble in question is inveterate and exceptionally intense, the presence of a deep furrow, as if a constrictor had been applied to the surface, is observed along the inferior border of the thoracic cavity. Cyanosis and persistent dyspnea are observed to be present at the same time, and these increase during the effort. The patients also complain of a sensation of constriction, analogous to that felt by tabetic subjects, but which is unaccompanied by pain.

Galvanic treatment has yielded the author the best results, even in the most severe cases of insufficiency of the phrenic nerves. The negative pole, in two parts, is placed over the surface of each of the nerves above the anterior scalene muscle, and the positive pole of the galvanic battery is applied either to the nape of the neck or to the sternum, and a current of variable intensity passed, according to the sensitiveness of the subject. In proportion to the number of respiratory movements, the current is interrupted from fifteen to twenty times a minute. When the current is well applied, the epigastric region is observed to become prominent on every closure of the circuit, while the inferior portion of the abdominal cavity becomes sensibly enlarged. F.

Hot Water in Hemorrhages from the Stomach

In gastric hemorrhages, whether due to ulcer or to other causes, Prof. Tripier (*Bulletin méd.*, No. 45, 1898) highly recommends lavage of the stomach with hot water of a temperature of 48-50° C. (118-122° F.) three times daily, or oftener if the hemorrhage threatens to return. It is important that the patient remain in a horizontal position and take no food or medicine whatsoever. Of the latter, artificial serum may be given subcutaneously in cases of extreme weakness. The author tried this treatment in three very severe rebellious cases in which an operation was thought of. After the treatment the latter became unnecessary. Only on the third

day after the hemorrhages stopped may a little milk be given, but the lavage must be continued for at least eight days, night and morning, before normal food may be partaken of. The author explains the good effects of the hot water by a reflex vaso-constricting effect on the diseased artery, and recommends the treatment as a prophylactic in congested portal circulation, in gastric ulcers and in hemoptysis. It is also of great benefit in every kind of internal or external hemorrhage. R.

Application for Chilblains

Dr. Boeck recommends painting the part with the following (*Le Scalpel*):

Ichthyol	}	ää 1.0 (aa grn. xv)
Resorcin		
Tannicæ		
Aquæ.....		5.0 (grn. lxxv)

R.

Orthoform

Kallenberger (*Brit. Med. Jour.*) finds that orthoform has the following properties: (1) It acts as a local anesthetic wherever sensory nerve-endings are exposed. (2) It is non-poisonous, so that as much as 60 grn. was used in one week upon a large raw surface. (3) It is antiseptic. Cases illustrating the value of orthoform are: (1) Fresh wounds, (2) burns, (3) ulcers of the legs, (4) carcinomatous ulcers, (5) syphilitic ulcers, and (6) toothache where there are exposed nerve-endings. The pain mostly disappeared in from three to five minutes, after which the local anesthesia was complete and lasted on an average for thirty-five hours. If the exudation is very abundant an ointment should be used instead of the powder, which may be washed away. In a case of ulcer of the leg where iodoform was substituted for the orthoform there was no return of the pain for seven hours. This period of freedom from pain is more marked the more prolonged the previous application of the orthoform has been. This agent also limits the exudation. Orthoform has been used internally in laryngeal ulcers, as well as in gastric ulcer and carcinoma. A chloride in addition to the base has been thus employed by Neumayer, but for surgical purposes the chloride is unsuitable, owing to its irritating properties. G.

For Smokers' Sore Gums

Dr. Vian recommends the following combination:

R Salol.....	1.0 (15 grn.)
Spir. of peppermint....	100.0 (3½ fl. oz.)
Tr. of catechu.....	4.0 (1 dr.)

S. A teaspoonful in 1-2 glass of warm water. Rinse mouth several times a day.

R.

REVIEWS

Atlas and Epitome of Operative Surgery.

By Dr. Otto Luckerkandl, Privat-docent in the University of Vienna. Authorized translation from the German. Edited by J. Chalmers Dacosta, M.D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. With twenty-four colored plates and 217 illustrations in the text. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, \$3 net.

This little work will be found very valuable by students of surgery who are preparing to pass their examinations. No better guide for such work as they are called upon to do in institutions where thoroughly practical methods are pursued has yet been devised. When the student is at work on the cadaver it will supplement the information of the instructor, and in his absence can even supersede him if conscientiously followed, and its contents mastered. For medical men who are far away from hospitals, yet wish to keep themselves in touch with operative surgery, the illustrations will prove of immense value. Even the experienced surgeon will gain from it information that will repay him for his trouble in securing the volume. The text is concise, exact, and clear, thanks to the careful work of its editor. The illustrations are very finely executed, and the coloring has a pleasing effect. The publishers have done their work in a way that reflects great credit upon them.

Atlas of Syphilis and the Venereal Diseases.

Including a Brief Treatise on the Pathology and Treatment. By Prof. Dr. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M.D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York; late Professor of Genito-Urinary Surgery and Venereal Diseases, New York, Post-Graduate Medical School and Hospital. With 71 Colored Plates. Philadelphia: W. B. Saunders, 925 Walnut street, 1898. Price, \$3.50 net.

When one opens a book like this and carefully inspects its seventy-one full-page colored plates, and compares the price with books bought ten or twelve years ago of a similar kind it is impossible to avoid feeling astonished at its cheapness. It is in itself an evidence of the great progress that is being made in art and mechanics at this, the close of the nineteenth century. All of Saunders' Medical Hand-Atlases that have been issued are fully up to the promises of the prospectus of the publisher, but this one, we think, excels all predecessors, and can really be said to more than keep the promise made concerning it. In every detail it shows the practical, thorough selectiveness of an author who knows just what medical men need in a work of this kind. It has avoided introducing useless material that might have pleased the curious or drawn out the praise of the specialist who looks for rare things within his own department. Instead of these, it has given pictures, descriptions, and reading-matter exactly adapted to the every-day wants of the general practitioner. The editor is to be complimented on the clear, incisive, free style in which he has put the text. There is nothing ambiguous, nothing redundant, and there are no involved sentences to puzzle the English reader. The pages devoted to the treatment of syphilis and of gonorrhea contain many formulas that will

prove useful to young physicians, even if the peculiarly Austrian features are adopted which American syphilologists might not accept as being as good as their own. The greatest benefit to be derived from such a work, however, is its aid in diagnosing cases. The inexperienced and those whose practice brings but a small proportion of cases of this kind to their offices are sure to be sometimes puzzled by what to them is new. A reference to the illustrated pages of a work like this will show them at a glance just what they have to deal with, and on turning to the text it will tell them how to treat it. An atlas of skin-diseases not syphilitic used in connection with this would make identification still more certain.

Clinical Studies of the Surgical Diseases of the Female Generative Organs. From Observations Made During Ten Years' Work in the Methodist Episcopal Hospital in Brooklyn. By Lewis Stephen Pilcher, M.D., Brooklyn, New York. J. B. Lippincott Company, Philadelphia, 1898. Pp. 96.

The pages of this small volume contain studies presenting the experience accumulated and the results from treatment obtained in a varied class of cases of disease of the female generative organs. This class of cases has not been set apart from other surgical affections in the institution referred to above, being cared for by the surgeons who have been intrusted with the general surgical work. In selecting the most urgent conditions in each case as a basis of classification, the division is made primarily by regions into: 1. Vulva and Perineum. 2. Vagina. 3. Uterus. 4. Fallopian Tubes. 5. Ovaries and Broad Ligaments. Many of the cases referred to are well set forth by excellent illustrations, of which there are some seventeen in number, mention being made especially of a rare case illustrating a ventral hernia, and of two cases of carcinoma of the body of the uterus. The book can readily command one's close attention. The type is very distinct.

CORRESPONDENCE

District of Columbia Private Hospitals

To the Editor of the A. M.-S. BULLETIN:

I have the honor to acknowledge the receipt of a copy of the July issue of the AMERICAN MEDICO-SURGICAL BULLETIN, which contains a review of the current report of this department. Please accept thanks for the kind notice of the report contained therein.

I note that you have evidently misunderstood that portion of the report which relates to private hospitals and dispensaries. The District of Columbia, like most other places, has a superabundance of such institutions devoted to charitable work. The private hospitals, to which our report refers, are such as are run for pay-patients only.

Respectfully,
WM. C. WOODWARD, M.D.,
Health-Officer.

Health Department, District of Columbia,
Washington, August 8, 1898.

The Denver health-authorities last month vaccinated the children going to the schools of that city at the rate of about 150 per day. The children are compelled to become vaccinated every five years or school privileges cannot be obtained.

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A JOURNAL OF PRACTICE AND SCIENCE

Issued on the 10th and 25th of the Month

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EDITOR'S NOTES

The medical information which is sometimes dished out to the public by newspaper reporters is of a fearful and wonderful type. When it appears bearing the name of some reputable medical man who is quoted as authority it is no more likely to be correct than when the same reporter gives it as his own. When light shines through distorted glass, every image carried past that glass is sure to be distorted. It is somewhat the same with ideas. Medical men can never be overcareful in giving information to such reporters. It should invariably be written on paper, and the writer should insist upon its appearing exactly as he has written it. Unless this is done great harm is pretty certain to come to one's reputation, and it may be in many instances that greater harm may come to the health of others. The St. Louis, Mo., *Chronicle* of August 15, under the heading of "Malaria is Epidemic" gives to its readers the following prescription as Dr. Sutter's remedy for malaria:

Acid Arsenic, grn. $\frac{1}{2}$.
Quinine Sulphate, grn. iv.
Powd. Black Pepper, grn. i.
Mix and put into 1 capsule.
Repeat every four hours.

OTTO SUTTER, M.D.

It is difficult to believe that any sane medical man ever gave this prescription to a newspaper reporter for publication. If he

did it will be a pity if some lawyer cannot get hold of one of his victims before the consequences have become too serious for that victim to be able to appear in court against him and get a good round sum as damages. Dr. Otto Sutter is stated in the same article to be the superintendent of the St. Louis City Hospital. Imagine such a prescription getting into the hands of some one with Bright's disease who has diagnosed his own case as one of malaria or had it so diagnosed for him by some doctor. Imagine any one taking such a dose on an empty stomach. Here is the full maximum dose of arsenic prescribed promiscuously without so much as a single word of warning concerning its dangerous nature, and no directions as to the care with which it should be taken. The doctor might have warned users against too long continuance of it, but he did not say a word in this direction. He might have told them of its danger when taken on a fasting stomach, but this too he neglected. He might have suggested the possibility of an idiosyncrasy, but he did not deign to do this. He might have informed them that it would be well to move cautiously in taking it, as the customary plan is to begin with a dose one-sixth this size and gradually increase the same, but no, he prescribed it as he would so much sugar, and apparently with as little regard for the consequences. We cannot think that Dr. Sutter is responsible for this. It is surely the doings of some ignorant reporter who thought he got the matter straight.

In an editorial in the August number of the *Cleveland Medical Gazette*, bearing the title "Yellow Fever Under Difficulties," the experiences are related of a sufferer from yellow fever during the attack on Santiago. The editor quotes from his correspondent as follows:

The flies are persistent. During the first part of my illness I learned to lie patiently and let the little pests crawl all over my face, in my ears, mouth, nostrils, and corners of my eyes. I counted twelve (with my pocket-mirror) congregated on my lips. A move of the hand made them swarm as they do on a kitchen-table over the dirty plates. When my eyes grew strong enough to open I sometimes amused myself by taking my mirror and catching the flies in the corners of my eyes. I killed twelve in much less than a minute.

With every hospital-ward in Shafter's camp filled with such object-lessons as this, still there were those who could see no danger to the well in it. They thought that the only source of contagion was the poor, suffering Cubans. It is wonderful how many men there are who can see but one possibility among the multitude of probable methods of carrying infection. When things

go wrong, morally or physically, we seem to prefer to fix the responsibility on our fellow men rather than trace it to causes over which they have little or no control. Such a mental trend is a vestige of ancient theology that saw in tempests, earthquakes, and plagues a punishment for sin. Our fathers blamed their fellows for every calamity, and we of this generation seem never to be satisfied until we are able to make a scapegoat of some fellow creature whenever anything goes wrong.

A Louisville, Ky., physician has been sued by a druggist of that city for damages to the extent of \$5000 for defamation of character. The cause of the trouble was a prescription calling for an ointment in which the doctor ordered a dram of nosophen, which the druggist read as morphine. The doctor denies the charge of libel brought against him, and claims that he is the one that was libeled by the apothecary. However the matter may really stand in these particulars, there is a lesson to be learnt by such occurrences, and one that many physicians should take to heart. Possibly the Louisville doctor may have written the word nosophen in characters as plain as those of copperplate, but it is not likely that he did. The whole event seems to indicate that if the word nosophen had been written with greater care, the druggist would not have made the mistake, the doctor would have said nothing against the druggist that could have been construed into libel, and this suit would never have been begun. The moral of the affair is that every doctor should see to it that his writing is as perfectly plain to others as it is to himself, and that he should be unusually careful when writing for new or seldom used remedies. It would also be well for us to remember that the occasional overzealousness of a druggist in seeking to protect the public against mishaps should be excused, because it is decidedly in the direction of the public good. To get angry or become impatient with a pharmacist who attempts to save us from ourselves whether with or without cause is folly. Where his motive is a good one, his occasional errors should be excused. A druggist that takes pains to send or telephone to a doctor so as to make sure that he correctly interprets a prescription should be commended and not condemned for such conduct. No better evidence of our safety in trusting to a pharmacist could be adduced. It shows that he is undoubtedly reliable and safe. An unreliable druggist would put up the prescription to suit his own fancy, even if he had to wilfully alter its contents.

PUBLISHERS' DEPARTMENT

HYDROCYANATE OF IRON AND VALERIAN

The Tilden Co., of St. Louis, Mo., has received the following letter from a California physician:

Dear Sirs:—Enclosed find P. O. money order for \$1. Please send by return mail 1 oz. Tablets Hydrocyanate of Iron and Valerian.

My case of epilepsy is doing fine, has had no trouble for the past three months, and appears as well as he ever was. Works hard every day on hay bales, tying and lifting heavy bales of hay. Will send full history of case when we get through if you desire it.

NEUROSINE

Neurosine is presented in a permanent and palatable form and is a combination of well-known and long-tried remedies, concerning whose virtues in the diseases and conditions indicated there is absolute unanimity of expression among all observers and authors upon the subject.

Neurosine should be administered in teaspoonful doses in wineglass of water, three times a day so long as such symptoms continue. In epilepsy double this dose should be given, and before the time the paroxysm is indicated the dose should be increased. In all forms of female neurosis, Neurosine should be combined with Dioiviburnia.

INTESTINAL ANTISEPSIS IN FEVERS

As an intestinal antiseptic we have nothing better than salol. When we add the antipyretic and anodyne effects of antikamnia, we have a happy blending, and these cannot be given in a better or more convenient form than is offered in "Antikamnia and Salol Tablets," each tablet containing $2\frac{1}{2}$ grains antikamnia and $2\frac{1}{2}$ grains salol. The average adult dose is two tablets. Always crush tablets before administering, as it assures more rapid assimilation. If in the treatment of fevers, an intestinal antiseptic is indicated, would not the scientific treatment of the conditions preceding them, be the administration of the same remedies? Fortifying the system against attacks is the best preventive of them.

HOME-SEEKERS' EXCURSIONS

On the first and third Tuesdays in September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line in South and North Dakota and other western and southwestern states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following-named persons: W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn street, Chicago, or Geo. H. Heafford, General Passenger Agent, Chicago, Illinois.

NEWS

Key West has had a large number of cases of yellow fever. Southern health-officers fearing it might spread into their respective territories, have quarantined against it.

Gen. Sternberg submits tables showing that all kinds of hospital stores, supplies and medicines have been issued in profusion, and especially to the Fifth Army Corps, which went to Santiago.

The Philadelphia, Pa., *Times* says that Chestnut Hill reservoir is a death-trap, and that the depression of the basin is such that it cannot avoid receiving the drainage from surrounding stables and houses.

Anthrax is said to be spreading from the vicinity of Salem, Ind., to the Ohio River. The Kentucky Board of Health has been conferring on the advisability of quarantining southern Indiana on account of it.

An appropriation of \$100,000 has been made to extend the hospital accommodations for the poor of Kings County, New York. This resulted from an appeal of the Commissioner of Charities to Mayor Van Wyck.

Canadian practitioners are endeavoring to establish a Dominion medical federation, so that whoever is registered in one province will have the right to move to and practice his profession in any other province without re-examination.

Washington sanitarians are anxious to regulate the ash-carts of that city and are therefore encouraging the superintendent of street-cleaning in his efforts in this direction. He has in his late report called attention to the need for reform in this direction.

The health-officers of Paterson, N. J., compel milk-dealers to supply them with the names and addresses of all their customers. Every violation is punishable with a fine of from \$5 to \$100. This is done to enable them to trace the source of typhoid cases and use rational means for checking epidemics.

Commissioner of Revenue Scott has decided that ordinary certificates to boards of health of births, marriages, and deaths, do not require to be stamped, but every certificate given to private parties for use in collecting insurance or to be used as legal evidence in any way must have a ten-cent stamp.

A Pennsylvania doctor has been found guilty of passing Confederate money on the unsuspecting natives of Porto Rico as genuine United States paper money. His plea when court-martialed was that he was in an enemy's country, and he thought he had a right to spoil that enemy. He was sentenced to five years in the penitentiary.

The State and Province Boards of Health of Canada, the United States, and Mexico, by invitation of the Michigan Legislature, met in Detroit, August 10 and 11, to discuss questions of sanitation. Prominent among the topics discussed was that of the prevention of tuberculosis. The occasion was the celebration of the quarter-centennial of the Michigan board.

Dr. Victor C. Vaughan, according to the *Boston Herald*, had a conference with President McKinley on August 17, regarding the scandal of the transport ships. He says it was the inhuman greed of the officers of the transports, coupled with the inexperience of the surgeons, that caused the trouble. Soldiers having no

money to pay the captains and stewards had to starve and suffer.

The seventeenth annual announcement of the New York Post-Graduate Medical School and Hospital, University of the State of New York, for 1898-99, has just been issued. It shows that 523 practitioners of medicine have attended its courses during the past year. They came from the various states of the Union and the Dominion of Canada. There were ten physicians from foreign countries, two of these being from India and one from Japan. Only ninety-six were from the state of New York.

It is said that the bands of the various regiments of Shafter's army dare not play "Home Sweet Home," because of its bad effects on the soldiers. Many of them have been reported as having died of nostalgia alone. The discomforts of the campaign, the absence of what we usually deem the bare necessities of life, the scant rations, uncomfortable clothing, and restless nights they had to endure, all naturally conspired toward this end.

The new hospital train for United States soldiers is thus described by Mr. Sanborn, a gentleman in charge of it:

"The establishment of a regularly equipped hospital train is an entirely new departure in the time of war, and to our government the entire credit is due. Heretofore many inconveniences and dangers were met in transferring the wounded from the scenes of conflict, but it can now be done expeditiously and without the risk of aggravating wounds or subjecting the sick to undue excitement or the jostling incident to other forms of conveyance.

"This train is composed of 15 easy-riding cars of Pullman build, very similar to our colonist sleepers. Twelve of these cars are fitted each with 30 berths, washrooms, toilets, compartments for drugs, nurses' room, etc. Each car has its own nurses, who are under the direct charge of an assistant to the head surgeon of the outfit. There is also a dining-car, with its chef and a corps of assistants, which serves alike to patients, officers, and help. In addition to the government rations, there are provided many delicacies by the Ladies' Aid Society of the United States, the head of which is Mrs. Alger, wife of the Secretary of War. This association also supplies quantities of night-shirts and underwear for the unfortunate soldiers received into this hospital on wheels.

"Another car is fitted up as a complete operating theater, with its varied assortment of instruments and furniture and a separate room for disinfection of the soldiers' clothes. In this car is every appurtenance for an emergency surgical operation en route.

"Then there is a car devoted entirely to supplies, etc., and last, but not least, the rear car is fitted up as a headquarters for the officers and surgeons.

"The train has its own locomotive, runs on a special fast schedule, and is manned by the crews of the various systems over which it runs. The headquarters of the train is at Fort McPherson, Ga., and Port Tampa, Fla., a point of easy access to the government transports. The hospital train is in charge of Major Charles Richards and Captain Stiles, both able surgeons in the United States Army."

The following are the essential features of Surgeon-General Sternberg's reply to the criticisms of the press upon his management:

"The number of medical officers allowed by law is inadequate in times of peace. The total number allowed is 192. There at present thir-

teen vacancies. The administration of the surgeon-general's office and the army medical museum requires six. Eleven are on duty at medical-supply depots and as chief surgeons of military departments. One is at the Soldiers' Home, fifty-six are at general hospital, one hospital ship and at garrisoned posts. Four have been disabled during the war by sickness. Five are on duty as chief surgeons of army corps.

"This leaves ninety-six medical officers available for duty with the troops in the field. Of these, thirty-five have been appointed brigade surgeons of volunteers, and are distributed among the various army corps.

"This deficiency in regular medical officers has made it necessary to employ nearly 400 contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, and many of them are thoroughly well-equipped physicians and surgeons, with ample hospital experience, but it has been impossible to make a careful selection, owing to the great pressure of business in the surgeon-general's office, and the urgency has been so great that it has not been practicable to have an examining board to pass upon their qualifications.

"In addition to this there have been appointed by the President eight brigade-surgeons with the rank of lieutenant-colonel, twenty-four division-surgeons with the rank of major, and sixty-five brigade-surgeons; also three medical officers for each of the regiments of United States infantry, cavalry and engineers. All volunteer regiments have three medical officers appointed by Governors of states.

"The hospital ship *Olivette* went with the Fifth Army Corps from Tampa, Fla., to Santiago, and brought a load of wounded from that port to New York. She returned to Santiago with supplies, and is now en route to New York with 200 patients.

"At the outbreak of the war the hospital corps consisted of 100 hospital stewards, 103 acting hospital stewards, and 520 privates, making a total of 723. The larger part of this number was ordered with the troops that left their respective stations to the camps of concentration, and accompanied the regular regiments in the Fifth Army Corps to Cuba, the smaller part being left behind at the various army posts, they being just enough to take care of medical property.

"The hospital train, which was equipped for service June 22, and consists of ten tourist sleepers and a dining-car, has made repeated trips from Camp Thomas, Tampa, and Fernandina with sick to the general hospitals at Fort McPherson and Fort Thomas, and has proved to be most useful.

"The hospital ship *Relief* was purchased in May, 1898, but, owing to delays in preparing her for service, did not sail from New York until July 2. Four days later she arrived at Siboney with an ample supply of medical stores of all kinds and with sixteen doctors. She returned to New York with a load of wounded, and was then dispatched to Porto Rico. She is now returning to New York with 260 sick and wounded.

"By means of enlistments, and afterward by transfers from volunteer regiments to the hospital corps, a large number of men were obtained, and to-day there are in service, by actual count, 5084. Probably 1000 are in the service whose enlistment and transfer are not yet received.

"In addition to the members of the hospital corps enlisted for the purpose of taking care of our sick and wounded, we have employed 141 male nurses and 386 female nurses, under contract."

The following are the examination-questions lately put to applicants for practice in the State of Tennessee by the Board of Medical Examiners:

ANATOMY

1. Give the peculiarities of the vascular system of the fetus.
2. Name the triangles of the neck, and give the boundaries of each.
3. Name the muscles of the thigh and of the posterior brachial region.
4. Give the anatomy of the humerus.
5. Name the principal fissures of the cerebrum and give location of each. Name the branches of distribution of the seventh cranial nerve.
6. Give location and relations of the kidney.
7. Describe the axillary artery and name its branches.
8. What is cartilage? What is pigment? What is protoplasm? Describe a muscular fiber. Give the general characters of a vertebra.

PATHOLOGY

1. Name the usual divisions of pathology.
2. What does each deal with?
3. Give the pathology of croupous pneumonia.
4. What is disease?
5. What is the pathology of diphtheria?
6. Give pathology and diagnosis of basilar meningitis. Of pachymeningitis.
7. Give best position in which to examine interscapular region. To examine subclavicular region. Locate the area of the heart's dulness.
8. What is the pathology of scarlatina? Of typhoid fever? Of asthma?

PRACTICE

1. Give causes, diagnosis, prognosis, and treatment of acute bronchitis. Also of pneumonia.
 2. Give causes, diagnosis, prognosis, and treatment of asthma. Of pertussis.
 3. What is Bell's paralysis?
 4. Give differential diagnosis of scarlatina from measles. From malaria? From cerebro-spinal fever? From smallpox? From erythema? From diphtheria?
 5. Define dysentery and give treatment. What is its etiology?
 6. What is the differential diagnosis between tinea circinata and eczema squamosum? Give diagnosis and treatment of acne.
 7. How would you diagnose acute cystitis from vesical calculus? Give treatment for acute cystitis.
 8. How would you diagnose cerebral anemia from cerebral hyperemia? Give treatment for both.
- Give differential diagnosis of epilepsy from apoplexy.

THERAPEUTICS

1. In what forms are medicines exhibited?
 2. What is an expectorant? Name six of this class and the dose of each. How do alteratives act? Name twelve of this class. Write all you know about the action of stimulants. Give some of the therapeutic indications for the use of stimulants. Name some of the contraindications to the use of stimulants.
 3. What are the exciting causes of epistaxis? Treatment.
 4. Give symptoms, diagnosis, and treatment of keratitis.
 5. How do sedatives act? What is the action of the sedative in pneumonia? In diseases of the heart?
 6. What do general anesthetics act upon? Name several local anesthetics.
- What is the therapeutic action of ether sulphuricus?

7. Give the dose and therapeutic action of quiniæ sulphas. Of opium. Of chloral hydrate. Of digitalis. Of tincture muriate of iron. Of ergot. Of zinci sulphas. What is an antizymotic? Give the dose and therapeutic action of three antizymotics.

8. Give the clinical course of a case of tabes dorsalis. Give the definition, causes, and treatment of icterus.

PHYSIOLOGY

1. What is meant by the terms inhibition and endosmosis?

2. Give properties and composition of urine.

3. What is the pressure of blood in the arteries? What influence does muscular action have on arterial pressure. From what plexus does the splanchnic nerve arise? Give physiological anatomy of the capillaries. Give some of the causes of venous circulation. What length of time is occupied in the passage of blood through the lesser and greater circulations?

4. What are the different classes of food? To which do casein, palmatin, glucose, soda, and stearin belong?

5. Give uses of saliva, gastric juice, bile, pancreatic juice?

6. What is heat? How is animal heat produced? How is the general heat of the body equalized?

7. What is understood by "impulse of the heart?" What is it synchronous with and what is it due to? What is the length of the auricular systole? Of the ventricular systole? Of the auricular diastole? What are the causes of the sounds of the heart? What influence does coffee have on the pulse? Alcohol? Prolonged fasting? What is the cause of the rhythmical contractions of the heart? What is it that controls the contraction and dilatation of the heart?

8. What is the quantity of gastric juice secreted in twenty-four hours? What is its specific gravity? Name the organic nitrogenized substance which is peculiar to the gastric juice. What part of the meat is acted upon by the gastric juice? What is its action upon albumen? Fibrin? Casein? Gelatin? Give the name of the new fluid substance formed by the action of the gastric juice upon albumen. What are the gaseous contents of the stomach during digestion? Name the ferment which changes albuminoids to peptones. Name the organic constituent of pancreatic juice which decomposes fats into fatty acids and glycerin. What is cholesterine of the bile changed to in its passage through the intestine? Name three substances resulting from intestinal fermentations.

CHEMISTRY

1. What is chemistry? What do we understand by chemical action? What is to be understood by the quantivalence of an element? Give examples of univalent, bivalent, trivalent, and quadrivalent atoms.

2. Name the sources of potassium, salts of magnesium, metallic zinc, copper, and mercury.

3. Mention the chief properties of glycerin. Define ethers and alcohols.

4. Name the chief test for albumen. In what form is albumen familiar?

5. How do volatile oils differ chemically from fixed oils? Where are resins found? How formed?

6. Give ordinary tests for sugar in urine.

7. What is the source of phosphorus?

8. What do you understand by water of crystallization? Define deliquescence, efflorescence, and lixiviation.

What is the source of lactic acid? Of acetic acid? Describe each acid. Name three potassium salts that are oxidizers.

What is the composition of plaster of Paris?

SURGERY

1. Give various steps in the application of the recurrent bandage of the head; of Velpeau's banding; of figure of 8 of pelvis and thigh.

2. What is a comedo? Milium? Malignant pustule? Pus?

3. By what name is fracture of lower end of the radius known? Symptoms? Treatment? Give diagnosis and treatment of fracture of patella. What are the causes of ununited fractures? Give diagnosis of fracture of neck of femur.

4. Give (a) predisposing and (b) immediate or determining causes of dislocations. What are the symptoms of the dislocation backward of both bones at the elbow? Treatment? Give (a) causes, (b) symptoms, (c) diagnosis of subcoracoid dislocation. Describe in detail Kocher's method for reduction of same.

What are the symptoms of dislocation of femur upon the dorsum ilii? How reduced?

5. What is the name of the cerebral fissure around which the principal motor centers for the face and extremities are grouped?

6. What is a tumor? Name the varieties of non-malignant tumors. What is a keloid tumor?

7. Name the different varieties of stricture of the urethra. What is varicocele? Symptoms? Treatment? Describe in detail the operation known as lateral lithotomy.

Give seven symptoms of vesical calculus. Give the circumstances under which a perineal lithotomy would be performed. Also the suprapubic.

8. Give symptoms and treatment of septic arthritis. Give symptoms of spondylitis and treatment for same.

OBSTETRICS

1. What is understood by version? Varieties? Methods? Give contra-indications to version.

2. Define labor. Give some of the causes of onset of labor. What is meant by "attitude of the fetus?" Define presentation. Define position. Name the different presentations. What portion of the pelvis is termed the false pelvis? Into what three portions is the true pelvis divided? Bound the superior strait. What is the curve of Carus? Name some points of difference between the male pelvis and the female.

3. Name the diameters of the fetal head and give the average length of each.

4. Describe in detail the mechanism of the second stage of labor in a vertex presentation, O. L. A.

5. In what four different ways may the obstetric forceps act? Give the general preparations gone through with preparatory to using forceps. Give the indications for use of forceps.

6. When is the vulvar tampon used? The vaginal? The intra-cervical? Name some materials used for tampons. Give in detail the method of application of a vaginal tampon. How long may this tampon be left in situ? How long may an intra-uterine be allowed to remain?

7. Name the indications for the induction of abortion? Of premature labor? Name some of the methods employed for the induction of premature labor.

8. What are the causes of the nausea and vomiting of pregnancy? Treatment? Causes of mania? Treatment? Name other diseases of pregnancy.

Give symptoms, diagnosis, prognosis, and treatment of phlegmasia dolens.

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EDITORIAL

THE JUSTIFICATION FOR MEDICAL PATENTS

THERE is probably no subject on which so much confusion of thought exists as in the matter of patents on medicines. But few persons clearly appreciate the difference between what are called "patent medicines" and medicines that are manufactured by a process that is patented. The two are as unlike as night and day, yet interested persons sometimes seek to increase the confusion to their own personal advantage by trying to have the two classes confounded. The so-called patent medicines of this country are as a rule not patent medicines in any sense whatever. It is only by misapplying the name "patent" that they bear this title. Before anything like reasonable principles were enforced in the patent office, patents were accorded to many of these nostrums on their bungling and quackish combinations of drugs, but lately more care has been taken, and at present there are few if any of them that any longer carry patents. Manufacturers have found it much more to their advantage to copyright names, keep secret their formulas, and masquerade under the popular but deluding general title of "patent medicine." None of the liver-regulators, sarsaparillas, resolvents, female regulators, kidney-cures, cherry pectorals, or other preparations of this kind that take up so much space upon the shelves of drug-stores, and

of late the department-stores, has the slightest right to bear the name of patent medicine. That they do bear this name is unfortunately true, and that the calling of a medicine a patent medicine causes the average mortal to at once class it among such nostrums is equally true. That this state of affairs has brought the mere suggestion of patents in connection with medicines into disrepute among medical men is really not to be wondered at. But there is danger in this condition, because it is likely to lead to results that may prove disastrous to the progress of medical science. The misconceptions that it fosters are numerous and far-reaching in their consequences, and in a country like ours where the popular will creates law such a state of mind, particularly in so influential a body of men as physicians are, needs to be corrected.

If a new remedy is discovered by the working out of investigations in organic chemistry that cost thousands of dollars and years of time, to patent the process by which it has been produced, cannot certainly be deemed a crime. If, by assiduous study and years of almost hopeless trial, some one should discover a new way of synthesizing quinine so that it could be commercially produced for less than half the price of the present product, it surely would not be a crime for the discoverer of this process to patent it. In neither of these cases would the world be injured by the granting of a patent. Indeed the gain to the world would surely be enormous. Without the prospect

of a patent as a protection such discoveries would either never be made at all, would only be made many years or perhaps centuries later, or if made now would be kept as profound secrets from the world. Is not the laborer worthy of his hire? Is not the man who spends time, money, and effort in making a new discovery worthy of some return for that time, money, and effort? The physician's labor merits and receives its reward, why then should not the discoverer's? For years there have been chemists at work trying to discover how to synthesize quinine. Thousands of dollars have already been spent, but without results. Every new worker in this research only continues to work because he sees that the protection of a patent will enable him to gain an adequate return for his loss and risk. None of these men would be willing to spend so much money and time if no such reward was offered to him. Every such effort is a guide to the man who follows by telling him where not to look for the solution of the problem. When the discovery of how to synthesize quinine is made, it will be worth more to the world than the discovery of a gold-mine. Would it be just or fair to the discoverer, whoever he may be, to refuse to grant him a patent? He seeks that patent as his reward, he spends time and money believing that he will secure a patent if he can make such a discovery. Would it be just to disappoint him? Surely, not. But when he has secured that patent and is able to supply quinine at less than the price of producing the natural article, all other processes for making quinine are likely to cease and his becomes a monopoly. But it is a monopoly limited to a few years only. In such a case he but monopolizes what the world would not at all have been likely to receive but for him, and for the protection in his limited monopoly he gives to the world for all time that knowledge which

he worked so long and ardently to secure. The bargain is one that is of mutual benefit and therefore quite fair. The encouragement to research—the encouragement of such a bargain between the public and the discoverers—is of immense benefit to mankind, and any attempt to stop it would result in incalculable mischief to the race. Let us have as many such patents upon medicine as can be secured. The more the better.

Suppose that the man hunting for the method of synthesizing quinine fails in his object but does discover something nearly or quite as good, what then? If, like Columbus, instead of finding a western route to India, he unwittingly discovers a new continent, does he not deserve to have the right to the benefits that may come from his discovery? When Knorr was hunting for a method of synthesizing quinine and when he thought that he had about discovered that method and was making the last step in his long series of changes he found out that he had produced antipyrine. Was there anything wrong in his securing a patent on this positive and useful addition to human knowledge? In acquiring it he had worked hard, and much time and money had been sunk in the research. His patent is now at an end, and the world has secured all rights connected with the manufacture of antipyrine and it is freed from all secrecy. Was not antipyrine just as useful and just as legitimate an article of our materia medica when it was in very fact a patent medicine as it has been during the last three months, during which time it has not been a patent medicine? If the reader will compare Blank's Sarsaparilla with antipyrine as it was prior to July last, he will see the difference between a true, genuine patent medicine and an article that through a popular blunder is called such. Blank's Sarsaparilla is not a patent medicine at

all, although every person calls it such, while antipyrine was a true patent medicine for seventeen years, and yet scarcely any person called it so. Had no patents been given by any country, it is not likely that we would for many years to come, if ever, have had such an article to prescribe.

There are at present upon the market a good many substances that physicians are prescribing that are really patent medicines in the true sense. No sensible physician refuses to prescribe them on this account, although there are perhaps a few that would shrink from confessing that they ever prescribe patent medicines. The odium of the name has come from its almost exclusive application to cure-alls that were not in any true sense patent medicines. Since the granting of the patent for the acetone method of manufacturing chloroform this substance could truthfully be called a patent medicine. Most, or perhaps all, of the chloroform now made is produced by a patented process. Salicylic acid and the salicylates as well as synthetic oil of wintergreen are all patent medicines. As most of the soda in use is manufactured by a patented process the sodium salts can likewise be called patent medicines. Indeed if we went over the list of all the remedies that are produced under processes that are patented it would be a very formidable one.

The patenting of the process of manufacture of any substance that has cost time and money to produce is just. The patenting of the substance itself is not right because it defeats the object of all patent laws. Our American law needs amending in this direction; for when a substance is patented, for seventeen years no one will try to do any work in the direction of discovering new processes for its manufacture. As patent laws exist for the sake of encouraging discovery, no patent should be given to hinder discovery.

THE ANTITOXIN PATENT OF BEHRING

OBJECTION has been made to the patenting of antitoxin by Professor Behring on the broad ground that it is a disgrace and shame for any man to get a patent on a medical process of any kind. This argument is so extreme and intemperate that it is calculated to do much harm by making those who see its fallacy incline to swing to the opposite extreme and seek to defend a wholly indefensible position. There are conditions possible that would have made the patenting of antitoxin not only excusable, but just and right. No patent should be granted that fails "to promote the progress of science and useful art." No patent should be granted when the petitioner has either actively or constructively abandoned his invention to the public. No patent should be granted when its grant will hinder discovery. No patent should be granted for a thing where it is clear that it certainly would have been quickly discovered by others than the petitioner without the stimulus of the patent law. To grant a patent in such a case is to steal from society its just heritage and give it to an individual. The patent law exists to promote, not arrest, justice, to promote, not arrest, progress, and to advance the interests of society primarily and the interests of the individual incidentally. Patents are granted because they are believed to benefit society and promote justice.

Within a field where there are a multitude of men working for the common good, making discoveries for the common good, avowedly denying any selfish motive and practically showing that their objects are purely altruistic, it is a shame for any person to seek a patent. For a Lister or a Jenner to give to the profession the results of his investigations, while a Behring refuses to give his, is treason. When the whole rank

and file of medical men give freely of all they find, for one to refuse to follow the common habit is a violation of confidence and of honor. Let Behring show that he quit the profession and launched into his investigations for the sake of the prize granted by the patent office, that he took his chances with all other inventors or discoverers, that he spent time and money with the patent as his sole hope of just return, and we shall then be willing to say that he has some basis of honor in his claim. Under such conditions if the patent should prove sound he would deserve due reward and credit rather than disgrace and shame. But these were not the conditions under which he worked. He went on for years receiving freely from the knowledge of his fellows without stint or hindrance, and pretended to be giving as freely as he was taking. His scientific life is now converted into a continuous implied falsehood. He is not the man that he led every person to believe that he was. He stands forth by his own acknowledgment as leading a sort of double life. From the very day that he started on his career as a bacteriologist, unless all reports of his work belie his claims, he made no pretence of holding any monetary proprietaryship in his discoveries. Conditions were such that for him to have done so would have been ruin to his ambition. He had therefore actively and constructively, at every other stage of his work, abandoned his invention to the public. When he accepted the prize in conjunction with Roux he publicly renounced all claim to personal control of his results. When he fails to apply for a patent in Europe he abandons his invention to the European people at least. What benefit is his American patent going to be to the American people? If the people of Europe get it untaxed why should Americans be taxed for it? Would not the American people just as surely have re-

ceived it free as the Europeans have done, if our patent office had not held out a hope of success that had nothing whatever to do with encouraging Behring's inventive genius?

This patent is in every sense unjust. Is it not clear to every sensible man who has kept track of the progress of discovery in serum-therapy that if there had never been a Behring born or never a patent office in existence this discovery would have been made? Others besides Behring were on its track and others besides him actually independently discovered antitoxin. To give a patent on it to any one is to violate every principle of justice and negative the whole utility of a patent law. The granting of this patent was logical suicide on the part of the patent office. It stands in the way of all work in the same field and hinders progress. It can never in any manner encourage future discovery. It has its menacing hand held up against seekers of new serums. It invades a department of research where work was going on with vigor and where the results would all have gone to the public without money, patents, or price. If other medical men follow in the wake of Behring where shall we find ourselves in the end? Allow every medical man to withhold all he discovers until he can get it patented and how fast will medical science grow or medical morals improve? This starting of the closing of the doors of knowledge will prove a serious affair if not quickly arrested by the frowns of the profession. On the social side too it has its injustice and its drawbacks. Already there are men employed in the manufacture of serum in this country. If this patent is to be maintained it will throw these men out of work and destroy a large amount of invested capital. Such injury to American citizens should in some way be compensated for. In this instance this injury has not even the justification of the public good.

View the subject how we will it appears at every turn wholly wrong.

Why the patent was ever granted is something of a mystery. To claim that Behring first proved the efficacy of the serum treatment of diphtheria is wild. It is a well-known fact to every physician that no one man could prove anything of the kind. Behring's discovery was in fact no discovery at all until it had been tested by a large number of medical men. It was the collective investigations of a multitude of scientific societies that gave it validity. Before gaining the consensus of the competent Behring's discovery was in no true medical sense patentable. Neither theory nor natural law can be the subject of a patent. Behring in common with a great many others held to the serum theory long before it was substantiated. As it passed from his hands, even if it had been wholly a discovery of his own, it had absolutely no utility commercially. It gained its commercial utility only after the different committees of the various medical societies had discovered and proclaimed its worth. In their hands and their hands alone did it acquire value or usefulness. They conjointly are in fact the only ones that this patent by right should have gone to, if allotted to any one.

So many and so fatal are the various objections that this patent must meet when it is brought into court that we are quite sure that Professor Behring will reap only a harvest of shame and not the harvest of American dollars that he expected. He will wish he had never taken this foolish step. Messrs. Parke, Davis & Co. and the H. K. Mulford Company have agreed to fight the patent to the bitter end and to protect all users of their serums from any interference on the part of the holders of the patent. We wish them success in their fight and cannot at present see how they can fail to beat Professor Behring on every count.

AMONG THE EDITORS

VERACITY IN PRACTICE

To say that a patient is only drunk, when found insensible, gives mortal offense to relatives, while they are rather gratified with a diagnosis of poisoning by opium, if vigorous measures of treatment be resorted to. A doctor must beware of hinting hysteria to a large fraction of humanity as a probable condition of wife or sister; but congestion of the brain, or even apoplexy, is received with profound satisfaction, and the reputation of the doctor is magnified by the recovery of the patient. The doctor who tells the truth in these instances is sure to come off with damaged reputation, and probably loses his fee besides, while the pliant liar is the gainer in both respects. This is uttered from actual experience, in cases where the writer was supplanted by practitioners of more worldly wisdom.

Some observation has also convinced him of a common habit among certain practitioners of magnifying the complaints of their patients—even of misnaming them—in order to heighten the value of their services. There are many persons who feel proud of recovery from serious ailments and are correspondingly liberal to the doctor who has cured them. This little trick, therefore, works happily for both parties.

In choice of conduct between truthful and untruthful dealing with people, it is mainly a question of self-respect or cupidity.—*Charlotte Medical Journal*.

OFFICE-HOURS

It is taken for granted that every physician has several or more hours each day which he calls his office-hours, and having thus set apart a specified time for the purpose of doing business at home, as it were, it at once becomes apparent, as a matter of business, that the time thus set apart must be carefully observed, otherwise he cannot expect his patients to be prompt.

During office-hours the doctor should be in his office, and stay there from the moment they begin until the time of their expiration. Whatever else he may do, or in

whatever other ways he may be careless, he should observe his office-hours strictly, as one of the sure ways of making a success in the profession is to keep office-hours promptly.

The business man who leaves his business, and the housekeeper her duties, to call on the doctor during the hours he has agreed to see them, have a right to expect to find him there when they call.

The physician starting out in his profession with the determination to be at his post during business-hours steadily every day, week, month, and year, is the one who is pretty sure to be a success in his profession.—*Medical Summary.*

ENTOMOLOGY IN LEGAL MEDICINE

The well-known researches of Méguin upon the cadaveric fauna have hitherto been regarded as interesting, but, as happens to most good observations sooner or later, they are now also found to have a valuable practical application. In a striking way they have once again shown—if, indeed, any additional proof were wanted—that medicine is the mistress of many a handmaiden science. These investigations were suggested by the desirability of determining the period of death in the bodies, more or less decomposed, brought to the Paris morgue, which has been under the charge of Dr. Méguin for more than fifteen years. Briefly stated, his method is to ascertain what insects are present in the body under examination, and then to draw deductions from a knowledge of the seasonal developments of those particular forms of life, and of their date of appearance in the cadaver. He has recently published in the *Journal* of the Académie de Médecine details of three new cases, in which he was enabled, by this novel use of entomology, to arrive at satisfactory conclusions as to the time of death. In each instance the body was found in a highly decomposed state many months after birth, and it is clear that any satisfactory conclusion as to the period of decease might under such circumstances have a crucial medico-legal bearing. As the particular point involved might at any time be forced upon the attention of medical practitioners of this country in the

round of their daily work, it may be as well to sketch the salient facts in broad outline, which may, perhaps, best be achieved by laying before the reader a short summary of the three cases above mentioned. The first two relate to the bodies of infants found in a trunk under the bed of a servant, and submitted to examination in October, 1897. In one, neither Diptera nor remains of Diptera were present, indicating that death occurred during the time of year that flies are absent—that is to say, in the winter. Numerous larvæ were found of a particular beetle—*Dermestes lardarius*—which is attracted by the odor of the fatty acids formed by decomposition from the third to the sixth month after death. There were numerous colonies of acari, genus *Tyroglyphus*, beginning to show their presence on the skin by a fine yellow powder formed of living and dead acari and their dejecta. The conclusions arrived at were that owing to the absence of the Diptera death must have taken place some time during the winter; and as the *Dermestes* of rancid fat invade the body from three to six months after decease, that the death had probably occurred ten months before the examination. This result, it is important to note, was confirmed by a subsequent confession of the prisoner, and, although not expressly stated, it may be presumed that a similar confirmation applied to the second child. The latter was in a desiccated and mummified condition, and on the body Méguin found the remains of various species of Diptera, namely, *Cryptoneura*, *Calliphora*, and *Sarcophaga*, together with numerous larval casts, but no living specimens, of the rancid-fat beetle, *Dermestes lardarius*. The obvious conclusion was that the operations of the foregoing insects had been interrupted by the onset of winter; and, making an allowance of three months for the Diptera and six for the *Dermestes*, the result was nine months previous to the winter of 1896-1897, or, in other words, the spring of 1896. Méguin thus fixed the deaths of the two children found in the trunk to have taken place, the one in the spring of 1896, and the other nine months later, in January, 1897. The third case reported by him resembled the others in many respects. From the character of

the Diptera present, he concluded that death had taken place either during the preceding summer or a year before that again. Indeed, it seems clear that in some cases, owing to the differing environment of a corpse, the results must be stated with some amount of latitude. In numerous instances, however, sufficient accompanying and corroborative evidence would be forthcoming to render Méguin's method trustworthy for all practical purposes. The discoverer, therefore, may be congratulated on having placed yet another scientific instrument in the hands of those engaged in the detection of crime.—*Medical Press and Circular*.

TRAINED NURSES AND DOCTORS

The actual number of trained nurses available, at least in New York city, who are worth their salt, is far below the demand. Nurses are born and not made and few of them apparently, are born. Their progenitors are, it would seem, stanch disciples of Malthus. If Dr. Schenck could only elaborate some method by which born nurses could be assured, he would confer a practical and desirable benefit upon suffering humanity, including the doctors. The really competent and "born" nurses we believe have no cause for complaint. The writer knows of at least three who are never idle except from choice. These three, it seems almost needless to say, are all women. Such a thing as a really good, thoroughly satisfactory male nurse, is almost an unknown quantity. Eunuchs are said to be capable of the highest possibilities in attainments as nurses. If this be so, then what we need in this country is a society for the propagation and cultivation of eunuchs.

Patients rarely, if ever, appreciate philanthropic economy in the doctor, even when they are the direct beneficiaries. As a matter of fact, based upon close personal observation, the successful physician here in New York, is the man who "nurses" his cases, making his visits often and prolonging his attendance well along into the post-convalescent period.

When you happen to get a careless or incompetent nurse, blacklist her; when you get a good one, stick to her and see to it

that she is kept busy. Make your own fees in proportion to the nurse's fees and the nurse's bill will not look so large. The size is a relative matter altogether.—*New York Polyclinic*.

EXPERT TESTIMONY

The discussion on Expert Testimony, held before the Philadelphia County Medical Society, is both interesting and instructive. The point around which the question revolves is whether experts should be called in a judicial capacity to give judgment upon facts submitted to them, or whether they should be called as witnesses to testify to certain facts and theories having supposed or actual bearing upon the case before the court, which testimony makes part of the case of the plaintiff or the defendant, as may be, and is to be passed upon by the jury. For example, if the expert is called to testify as to whether or not, in view of all the facts of the case, A B is, in his opinion, insane, he is called as judge and not as witness. He should receive, not give, testimony; and part of the testimony which he should receive is that which he himself gets from the alleged insane person by observation or by questioning. If, on the other hand, he is called as a witness, he may testify that he has observed in A B or has learned by questioning A B such and such symptoms which are or are not usually or exceptionally found in the insane. He may or may not be called upon to give an opinion as to the insanity of A B, but should he be called upon to give an opinion, it is in this case as an advocate and not as a judge; and it is to be presumed that he has been called to testify by one side, because they have previously ascertained that he holds an opinion favorable to their own contention.

If it is no disgrace to lawyers and judges to differ upon doubtful questions of law, it can be no disgrace to physicians to differ upon doubtful questions of medicine; and Dr. X may testify for the defense, and Dr. Y for the prosecution, of a given case, with equal skill and honesty. Dr. X does not testify for the defense because the defense has engaged him, but the defense has en-

gaged him because he holds an opinion favorable to its side of the case. The same relation holds between Dr. Y and the prosecution. Let the difference between judges and witnesses be clearly understood and it seems to us that half of the difficulties of the subject of expert testimony disappear. Concerning the capability of juries to pass upon the significance of the facts testified to by experts, there is room for much doubt, but this is the fault of the jurors and not of the witnesses.—*Philadelphia Polyclinic*.

UN SOUND AND ADULTERATED FOOD

There can be little doubt that unsound food is sold in large quantities throughout the Australasian Colonies.

Adulterated and impure foods are the cause of many diseases in this country. Putrid animal food causes severe pains in the abdomen, with vomiting and diarrhea. This is more likely to occur during the summer months, and has been very frequent in the early part of the present year. In addition to this, diseased meat, such as that of tuberculous animals, may lead to the introduction of serious disease in healthy subjects. So, too, may impure or adulterated milk account for the high mortality among children of tender years, and there can be little doubt that much of the crime which has of late years stained the name of our young colonies is the result of unscrupulous contamination of alcoholic beverages in the public bars of some licensed houses.

Pork, mutton, beef, veal, and such mixtures as brawn, sausage, and meat-pies, have all caused poisonous symptoms in England and elsewhere. We have recently seen exposed for sale in Sydney pork-pies which, when opened, emitted an offensive odor, and in which the meat was covered with a repulsive yellow slime. Such pies, if eaten, would probably cause gastro-enteritis or other inflammatory disorders.

Stale shell-fish, such as crayfish, crabs, etc., often cause urticaria and gastro-enteritis. Cheese may cause symptoms similar to those observed in meat-poisoning.

Not long ago, when the Public-Health Bill was before the N. S. W. Parliament, a member of the House stated that a large firm made strawberry jam out of pineapple

or pumpkin, "and sent youngsters round to pick up the dried figs that fell in the domain, so that they could use the seeds to represent the seeds of strawberries and raspberries in the pumpkin-pulp.—*Australasian Medical Gazette*.

DOCTOR'S PARASITES

Human parasites, who prey upon doctors, extracting from them laborious services, not only without reward, but also to the direct detriment of the doctors, have become extremely prevalent of late.

The nature and habits of this parasite are well known to most practitioners, especially in large towns. He knocks, or rings, as no other mortal man would. He has an instinctive insight into the arrangements of a doctor's house, and urgently requires his services just as the doctor sits down to a meal, or sinks into his first slumber. However trivial the ailment, without waiting for the doctor's opinion, he suggests the calling in of eminent specialists, adding that money is no consideration in the case. Nevertheless, when the doctor sends in his modest account for services rendered (including harassing and worry, which money could hardly compensate), there is little hope of payment. If the doctor is of a yielding disposition, his bill is answered by a flat refusal to pay, accompanied by a statement that the patient is contemplating an action to recover damages for unskilful and negligent treatment. If the doctor is a man not likely to put up with nonsense of that kind, the patient makes excuse for non-payment, with profuse promises, and consults the doctor as before. When the doctor shows signs of impatience, another doctor is called in without remark. The county court has no terrors for these parasites. They know they can set at nought the judgment of the court. Judges issue judgment summonses to enforce payment for money-lenders, but not for doctors.—*Hospital Gazette*.

Ichthyol in Lymphangitis in Children

Moncorvo, Jr., reports (*Rev. méd.*, 1898, No. 5) having obtained the best results in lymphangitis in children, by the use of ichthyol dissolved in steresol to the extent of 10 per cent. F.

CURRENT TOPICS

INVOLUNTARY MOTOR-REACTIONS TO PLEASANT AND UNPLEASANT STIMULI

G. V. Dearborn and F. N. Spindler (*Psychological Review*, Vol. IV, p. 453) experimented with reference to the hypothesis of Prof. Munsterberg, that stimuli which cause action of the extensor muscles are, as a rule, agreeable, while stimuli which cause action of the flexor-muscles are, as a rule, disagreeable. According to this theory, the hands should relax and the head drop back under agreeable stimuli, while under disagreeable stimuli the reverse should take place.

The hands and the head were therefore chosen as the reacting organs of the experiments. The stimuli used were odors, sounds, and colored light. It was much more difficult to find for each subject a positively disagreeable odor than it was to find a positively pleasant one. The most emphatic were bergamot, cologne-water, heliotrope, methyl acetate, oil of cloves, tincture of musk, ethyl iodide, spirit of turpentine, xylol, eugenol, oil of eucalyptus, iodoform, cider-vinegar, bisulphide of carbon, ethyl borneol and camphor, sulphuric ether, toluidin, allyl alcohol, tincture of asafetida, diamylamine, acetic acid, and ammonium valerianate.

It was expected that, as the lower animals, savages, and children are very responsive to sensory stimuli, the effects of civilization or education would reduce motor-manifestations as responses to sensory stimuli. It was found, however, that some subjects did not react at all, except to pronounce the stimulus pleasant or unpleasant, and other subjects would give a motor-reaction, while they pronounced the stimulus indifferent; others, again, were so sensitive that "they seemed to go all to pieces" by any disagreeable stimulus, and would "show most surprising and seemingly contradictory reactions."

The subjects were mostly seniors and juniors of the Harvard and Radcliff Colleges, and graduates working in the laboratory. They were nineteen in all, each comfortably seated in an arm-chair, and their heads and hands ingeniously connected with registers. The summary includes only actual reactions to stimuli, 764 in all. The cases where stimuli were applied without resulting reactions numbered 253.

The tendency was to move away from a disagreeable object and to make particular

movements of adaptation to stimuli, etc. A further influence of great interest, revealed upon examination of the records of the separate individuals who, as subjects, took part in these experiments, is that if their reaction to stimuli which they pronounced indifferent be examined it will be seen that some show a temperamental tendency to make movements of flexion more often than of extension; others the opposite; and others still to make both in nearly equal proportion.

The "flexion" temperament shows through the greater predominance of flexions a greater difference in the proportion of the two movements under pleasant stimuli, and a nearer approach to equality under an unpleasant stimuli. The "extension" temperament shows the opposite results.

Temperamental differences, then, work together with the other special tendencies mentioned above in modifying the tendency to contract under disagreeable, and to expand under agreeable, stimuli. While, therefore, this latter is clearly shown by the research as a real and strong tendency, it is at the same time shown to be only one tendency acting among many. J.

TESLA AND OLD AGE

According to the *Public Health Journal* (Vol. XII, No. 5), Nikola Tesla has made a somewhat amusing contribution to medicine. He has found a way of warding off the ravages of time from the surface of the body. He tells us that between 4000 and 7000 microbes fall on every square foot of the human body and settle there in 24 hours. If we could see the surface of the body with a microscope we would see it swarming with millions of germs. They would not only, he says, be a hideous sight (he evidently pictures them in his mind's eye with heads and long claws), but they would be seen to be eating the skin and destroying its freshness at a rapid rate. The reason that old people are yellow and wrinkled is because the microbes have for years fed upon their skins. Tesla recommends, in the first place, thorough washing of the skin once a day with alcohol, and has invented a battery which shoots the microbes off into space with great violence, sometimes to the distance of four to five feet. If this discovery of Tesla would lead people to wash who would otherwise not do so, it would be a boon indeed. We are afraid it will appeal more to those oversensitive people who are already tottering under the weight of many other more or less senseless fads. S.

SELECTED PAPER

A TRAGEDY OF THE GREAT PLAGUE OF MILAN IN 1630

By ROBERT FLETCHER, M.D.

In early Bible history there are records of the utter destruction of temples or even cities, the removal of every stone which marked their existence, and the sowing of the ground with salt, so that it might ever after be sterile. Of the efficacy of the latter part of the proceedings, some doubts might be entertained. In modern times the residence of some notorious criminal has, in like manner, been destroyed and removed with the solemn declaration by the State that the ground upon which it had stood should be held as accursed, and that no building should ever be erected upon it. There are two noteworthy instances in which, in addition, a stone column with an inscription describing the crime and its punishment was erected upon the site of the dwelling of the criminal. The first in order of date is still in existence in Genoa. A certain Julius Cæsar Vacchero, known as the "richest merchant of Genoa," entered into a conspiracy in 1628 to destroy the republican government of Genoa and to deliver the State to the Duke of Savoy. He was beheaded with many of his fellow conspirators, his wife and children were banished, and by a decree of the Senate his palace was razed to the ground, every stone removed, and a pillar with an inscription devoting him to "eternal infamy" was erected on its site. A naval officer¹ who visited the spot a few years ago described to me the desolate appearance of this vast space of ground overgrown with brambles and weeds, with the weather-beaten stone pillar in its center. In reply to his inquiries, no one could tell him anything of the story connected with the place, only that the ground was "accursed," and the pillar was "*colonna d'infamia*."

The other column was erected in Milan, in 1630, and the tragedy it commemorated is the subject of the present sketch.

Traditions of the terrible pestilence known as the Black Death, which ravaged Europe in 1348, and which, according to estimates made from such sources as were accessible, swept away one-third of the inhabitants of the known world, were still

rife in Milan when the great plague of 1630 broke out in that city. A writer has left a vivid description of the conditions brought about by the former visitation. He says:

"Wild places were sought for shelter; some went into ships and anchored themselves afar off on the waters. But the angel that was pouring the vial had a foot on the sea as well as on the dry land. No place was so wild that the plague did not visit—none so secret that the quick-sighted pestilence did not discover—none could fly that it did not overtake.

"For a time all commerce was in coffins and shrouds, but even that ended. Shrift there was none; churches and chapels were open, but neither priests nor penitents entered—all went to the charnel-house. The sexton and the physician were cast into the same deep and wide grave; the testator, and his heirs and executors were hurled from the same cart into the same hole together. Fire became extinguished, as if its element had expired, and the seams of the sailorless ships yawned to the sun. Though doors were open and coffers unwatched, there was no theft; all offenses ceased, and no cry but the universal woe of the pestilence was heard among men."

There is nothing more cruel than fear, and no fear more debasing than that which is engendered by the presence or approach of a pestilence. We have not been without some experience of this in our own day, but when we add to this ignominious cowardice, the gross ignorance and superstition which existed at the period of which I am about to speak, we can understand, partly at least, how such a story became possible.

Manzoni, the famous Italian writer, the author of the best romance of the century in his language, "*I promessi sposi*," "The Betrothed," has told the story of this Milanese column in a small work published in 1840, *Storia della Colonna infame*. It has not been translated into English, though there is a French version of it.

The column in question was erected in 1630, and was blown down during a storm, in 1788. The inscription upon it was in Latin, which, in its construction, very closely resembles some portions of the inscription on the Genoese pillar. The literal translation of it is this:

"Here, where this plot of ground extends, formerly stood the shop of the barber Giangiacomo Mora, who had conspired with Guglielmo Piazza, Commissary of the Public Health, and with others, while a frightful plague exercised its ravages, by means of deadly ointments spread on all sides, to hurl many citizens to a cruel death.

¹ Captain Greer, now Rear-Admiral Greer, U. S. N. (Retired.) He copied the inscription, which corresponds exactly with that given in the account of Vacchero's conspiracy in the *Archivio storico d'Italia*, an important collection of public documents published by the Italian Government, and amounting to nearly a hundred volumes.

For this, the Senate, having declared them both to be enemies of their country, decreed that, placed on an elevated car, their flesh should be torn with red-hot pincers, their right hands be cut off, and their bones be broken; that they should be extended on the wheel, and at the end of six hours be put to death, and burnt. Then, and that there might remain no trace of these guilty men, their possessions should be sold at public sale, their ashes thrown into the river, and to perpetuate the memory of their deed the Senate wills that the house in which the crime was projected shall be razed to the ground, shall never be rebuilt, and that in its place a column shall be erected which shall be called Infamous. Keep afar off, then, afar off, good citizens, lest this accursed ground should pollute you with its infamy. August, 1630."

This barbarous sentence was executed in all its details, and for a hundred and fifty years, this pillar, intended to blast the memory of two really innocent persons, stood as the proof of the ignorance and credulity of their judges. In 1777, a certain Count Pietro Verri, Counsellor of State in the service of the Empress Maria Theresa, wrote a work, which, however, did not see the light until 1804, twenty-seven years later, entitled (translated) "Remarks upon torture, with special relation to the effects of the baleful ointments to which was attributed the plague which devastated Milan in the year 1630." Count Verri had carefully perused all the records of the trial of Piazza and Mora, and while pointing out the injustice done these wretched men, he decried in good set phrase the legalized use of torture. It is not surprising that he delayed the publication of his treatise. As late as 1768 the Empress Maria Theresa had authorized the publication of a codification of the laws relating to the use of torture by the courts. The judicial application of torture, or "the question," as it was termed by a delicate euphemism, comes down from the Roman code of laws. Count Verri quotes from the writings of many jurists as to the rights of the accused, and the power of the judges, in cases where it was necessary to extract the truth. The late Dr. Welling, of Washington, delivered an address on the law of torture, giving the codification of Guazzini, a famous Italian jurisconsult, which was published in 1612. There is a wonderful resemblance in the provisions of all these laws as described by Guazzini, Verri, and the later codification of Maria Theresa. Great discretion was given to the judges, but

they were forbidden to apply the torture in any case more than three times. If the accused, appropriately named *l'afflitto*, the sufferer, bore these three administrations without confessing, then he was to be held guiltless as by Divine decision. In the "Ancient customs of Brittany," a very curious compilation made in 1330 and 1340, the same limitation was made, and if the accused bore it all without yielding, then he was to be, in the language of the compiler, "Safe and free, because it was evident that God exhibited miracles for him."

Another provision of the law regulating the application of torture, which was violated in the case in question, was that which forbids its use for the discovery of the *corpus delicti*, which must appear *aliunde*—from other sources—but only for the purpose of discovering the author and accomplices of the crime. Here there was certainly neither dead body nor injured person.

The preparation of the accused for the torture was ceremonious. It was a general belief of the times that an amulet or compact with the evil one which would enable him to endure the cruelest sufferings, and thus evade the desired confession, might be concealed in his clothes, hair, or even in his stomach or bowels. His clothing was changed, every particle of hair was shaved off, and a purgative was given him, so that he might be effectually deprived of all diabolic aid. Piazza was thus prepared every time that he was tortured.² The belief in this protective power was of ancient date. A distinguished Italian magistrate,³ in a work on criminal law published in 1532, states that an accused man revealed the secret of his ability to resist torture and refrain from cries or disclosures. He confessed that one of his relatives had prepared for him a cake of wheat flour, to which was added the mixed milk of a mother and daughter. Every day he was to swallow some crumbs of this cake, and as long as it lasted it insured his insensibility to torment. On the other hand, there were certain liquids and greases which when rubbed into the body of an accused person, counteracted all his protective charms, and, says Marsilius, with cynical exultation, "when that was done one could hear the joints crack and the bones sing." M. Le Blanc⁴ says that these counter-

¹ "Abraso prius dicto Gulielmo, et vestibus Curiae induto, propinata etiam potione ea purgante." (Processo [etc.], p. 41.)

² Hippolytus de Marsiliis. *Practica criminalis* [etc.], fol., Venetia, 1532, fol. 12.

³ Le Blanc (Edmond). *De l'ancien croyance à des moyens secrets de défer la torture*. Paris, 1892, p. 14.

charms were known in England in the twelfth century, in Italy in the fourteenth century, and in China to quite recent days.⁵

The original account of the proceedings which led to the tragic end of Piazza and Mora is that of the Canon Ripamonti. He was born in 1577, and was historiographer of Milan. He published the first ten volumes of the Ecclesiastical History of Milan, in 1617, and by request of the Decurions wrote an account of the plague which devastated the city in 1630. This latter is a quarto book of 410 pages, written in Latin, and published at Milan in 1641. The title-page is a copper-plate engraving, curiously emblematic. There is a gigantic skeleton filling the entire page; his hands hold weapons, armor, and books of devotion; his bony feet protrude from under a carpet on which lies a man, the victim of the plague. In front of the skeleton is an altar with a crucifix, to which a woman, seated, with the usual naked boy attending her, points with a sword.

Two hundred years later, in 1841, this work was translated into Italian by Francesco Cusani, who has added many valuable notes in an appendix.

In 1839 the full official account of the trials of the "Anointers" was published in Milan.⁶ It is in Italian, but all that relates to the application of the torture is discreetly veiled in the less familiar Latin, which, however, the modern editor has translated into Italian.

From these sources the facts have been obtained, now to be briefly presented.

Early in the morning of the 21st of June, 1630, during the prevalence of the plague in Milan, a woman of the lower classes saw from her window a man going down the street who was writing on a paper. He wiped his fingers on the wall of a house, probably to get rid of ink-stains, but with the readiness of ignorance and fear, she was sure that he was smearing deadly ointments to promote the spread of the pestilence. A crowd of excited women invaded the Council-chamber, and the Senate was informed of the occurrence. Orders were immediately given to trace out and arrest the guilty man.

It must seem strange to us that the rulers of a great city, even at that time, could have been so ignorant as to believe that such means could be productive of the pestilence, or that any man or men could desire to destroy their fellow citizens, and risk

their own lives besides. But extraordinary occurrences demanded extraordinary causes to account for them. The plague was attributed to hail, to the poisoning of the fountains by the Jews—to deadly ointments so placed that passers-by would touch them. It became dangerous for any one to touch walls or buildings. Ripamonti relates that three French travelers admiring the façade of a building, one of them touched the marble, and was immediately set upon by the mob and dragged half dead to the prison. An old man, 80 years of age, about to sit down on a bench in the church of San Antonio, wiped off the dust with his cloak. A woman cried out that he was anointing the benches, and even there, in the house of God, the worshippers beat and kicked the life out of the unfortunate man. Such was the spirit of the time.

The earliest notice, perhaps, of this belief in "Anointers" is to be found in the works of Guy de Chauliac, who was physician to Pope Clement VI and was living in Avignon, in 1348, when the Black Death ravaged that city. He says: "It was believed that the Jews had poisoned the world, for which reason they were slain. In other places they drove away beggars after cutting off their ears * * * and if it was found that any one had powders or ointments, he was compelled to swallow them, to show they were not poisons."⁷

Ambroise Paré, in his *Livre de la peste*, throws further light on the matter. In his Advice to Magistrates, during the visitation of the pestilence, he concludes the chapter thus:

"What shall I add? They must keep an eye on certain thieves, murderers, poisoners, worse than inhuman, who grease and smear the walls and doors of rich houses with matter from buboes and carbuncles, and other excretions of the plague-stricken, so as to infect the houses and thus be enabled to break into them, pillage and strip them, and even strangle the poor sick people in their beds; which was done at Lyons in the year 1565. God! what punishment such fellows deserve; but this I leave to the discretion of the magistrates who have charge of such duties."⁸

The scrivener, with the ink-horn at his belt, was discovered, and proved to be a certain Guglielmo Piazza, a commissioner of health, a petty officer employed to report cases of the disease. He stoutly denied all knowledge of the crime charged to him, and maintained his resolution through two

⁵ Bodin states that magic words conferring immunity under torture were sometimes written on the scalp of sorcerers, where it was concealed by the hair. (*De la démonomanie des sorcières*, 1587.)

⁶ *Processo originale degli Untori nella peste del 1630*. Milan, 1839.

⁷ *Cyrurgica*, 1499, fol. 19.

⁸ *Œuvres*, 1575, fol., p. 66a.

applications of torture, although the second one was the "question extraordinary," in which atrocious complications were added to the ordinary proceeding. But in his cell, broken down with the effects of the torments he had twice experienced, and dreading their renewal, which he knew would come, the unhappy man yielded to the insidious suggestions of those around him. He confessed his guilt, and declared that he obtained the death-dealing ointment from the barber Giangiacomo Mora. The latter was immediately arrested, but was likewise vehement in his declarations of innocence, avowing that he had never seen or known Piazza. The latter was made of sterner stuff than the barber, who yielded at the first application of the torture, and confessed everything they suggested to him. From that time on these two wretched men vied with each other in manufacturing falsehoods. They implicated even a Count Padilla, the son of the Commandant of the Castle. He was arrested, but having powerful friends, his trial did not take place until long after the execution of Piazza and Mora. It was from the documentary evidence on his trial that Count Verri obtained the full details of the iniquitous treatment of the two victims who had perished. Count Padilla was ultimately acquitted.

Mora, the barber, had a wife and five children; the eldest, a young man, assisting him in his business. The latter was arrested with his father, and the entire contents of the shop were seized and carried to the court. As was usual in those days, the barber dabbled in medicine, and he declared, no doubt with truth, that the various pans and vessels contained remedies for or preservatives from the pest. The sale of these specifics was very extensive. A man who was hanged for robbery during the height of the pestilence confessed, with the rope around his neck, that he had prepared an ointment as a charm against the Anointers. Cusani, in his notes, gives the formula of what became known as *Unguento dell' Impiccato*, "The ointment of the hanged man." It may take its place with the "Vinegar of the four thieves," which had its origin during the plague of Marseilles. Its composition was supposed to be: Wax, 3 ozs.; olive-oil, 2 ozs.; oil ivy, oil stone, leaves of anethum, or dill, laurel-berries, sage and rosemary, of each $\frac{1}{2}$ oz. A little vinegar was added.

It is interesting to observe that these remedies, or preventatives, were composed almost entirely of aromatics, some of which furnish the accepted germicides of our own

day. The apertures of the body were to be especially guarded by applications of these waters or tinctures. Ambroise Paré recommends that a surgeon called to attend patients with the plague should first be purged and bled. Next he should have two issues made, one at the insertion of the deltoid of the right arm, and another about three fingers' breadth below the left knee. He considerably adds that these need not be made if the surgeon already has any running sore. "For truly," he declares, "we know from experience, that they who have such open sores, have not been subject to the plague, and have taken no harm, though they were every day among cases of it."⁹

Paré also gives a formula of a "Preservative water," with which the surgeon was to wash his whole body, "very frequently," and he adds, "it is a good thing to wash the mouth with it, and draw a little of it up the nose, and put a few drops into the ear."

This preservative consisted of a mixture of rose-water, elder-flower water, and wine, in which were boiled, by slow heat, the roots of inula, angelica, gentian, bistort, and zedoary; also the leaves of sage, rosemary, wormwood, and rue; juniper and ivy berries with lemon-peel, and the mystic theriac and mithridate were finally added.

As a proof of the danger of contact with the bodies of infected persons, Paré relates in his vivid style how he himself nearly fell a victim to a sudden deadly syncope, the result of the overpowering effluvia which arose from the buboes and carbuncles of a plague-patient, as he uncovered him. Upon regaining consciousness he sneezed violently ten or twelve times, so that his nose bled, and he attributes his escape to "virtue of the expulsive power of his brain, seeing that all his other faculties were dead for the time."¹⁰

The barber's acquaintance with Piazza seems to have been limited to occasional visits of the latter to his shop for the usual service of his trade, and they both stated that Mora had undertaken to prepare a pot of his "preservative" for his customer. On this slight foundation was built a superstructure of conspiracy for wholesale murder, by the never-failing power of torture. Once, in his agony, the wretched barber cried to his judges that if they would tell him what they wanted him to say, he would say it! He confessed every thing that was insidiously suggested, such as that he had mixed foam from the mouths of those dead of the plague with his ointment, and then

⁹ *Op. cit.*, 663.

¹⁰ *Op. cit.*, p. 664.

declared that Piazza, whose business took him among the dead bodies, had supplied him with the material.

In the account of the trial there is frequent allusion to the "purging the infamy" of the accused. A Roman law, given by Justinian,¹¹ provides that gladiators, slaves, and infamous persons like them, when called as witnesses, should be first put to the torture, so as to insure their telling the truth.

In like manner, in the Italian laws regulating the legal application of torture, the accused person was declared to be "in-

the treachery of these officials, for the Governor only could exercise such power.

More than once, Piazza and Mora recanted, and declared that their confessions were false, and uttered only in fear of further torments. A threat of another application of the question, and above all, the hope that if no longer recalcitrant they might expect some mitigation of the horrible punishment which had been decreed as their fate, soon reduced them to submission. They were in the hands of men who were destitute of pity. The plague was raging, and the populace, fierce and igno-



FIG. 1

famous," and his implication of others in his crime was not to be accepted as proof, unless he maintained his charge while subjected to torture. If he then reiterated his declaration he was said to have "purged his infamy," and his evidence was admitted. Piazza, as he involved others in his accusations, was, on each fresh occasion, tortured to "purge his infamy," and thus make his charges applicable. The degree of suffering inflicted upon him seems to have been much lighter than on other occasions. He had been promised immunity from his sentence by the Auditor of the Court if he made full confession, another instance of

rant, demanded their victims. The Commandant of the Castle, the father of Count Padilla, who had been accused of complicity in the alleged crime, demanded of the Court that the execution of the sentence on Piazza and Mora should be delayed in order that they might be confronted with his son and their accusations met. The judge refused to accede to his request on the ground that "the people were clamorous."

When the condemned men found that their examinations were at an end, and that, despite the promise of immunity, they were to be submitted to the full execution of their terrible sentence, they retracted in their confessions to the priest all the charges

¹¹ Digest, lib. XX, tit. V, de testibus, 1, 21.

they had made against other persons, declaring that they were made under the agonies of torture, or in the apprehension of further suffering.

In the collection of medical portraits and engravings in the library of the Surgeon-General's office, at Washington, is an elaborate print, representing in all its details the execution of Piazza and Mora.

The engraving, which is from a copper-plate, is about sixteen inches square. It was published in Rome by the authority of the Nuncio of the Roman College. The engraver was Horatio Colombo. There is no date, but it is probable that it was brought out close upon the event it commemorates.¹²

The title on the top is (translated), "The sentence pronounced on those who had poisoned many persons in Milan in the year 1630." This is followed by the names of the magnificos who sat in judgment, and the particulars of the punishment decreed. Each scene in the picture has its letter, which is referred to in an explanatory legend below. The entire disregard of the unities of time and place which characterized such productions is well displayed in this curious engraving. On the right is the shop of the barber Mora, and in front of it the "Column of Infamy" is already erected. A large platform car, drawn by two oxen, exhibits the victims, executioners, and priests. A brazier of live charcoal contains the pincers with which the flesh was to be torn. The barber's right hand is on the block, and a chopper held over the wrist is about to be struck down by a wooden mallet held aloft by the executioner. Further on is seen a large platform, on which the two victims are having their limbs broken by an iron bar, preparatory to their exposure on the wheel for six hours. The wheels are also displayed, one of them already on a pole, with the men bound upon it.

Still further on are the fires consuming the bodies, and, last scene of all, on the extreme left is a fussy little stream foaming under bridges, which is supposed to be a river, and into it a man is throwing the ashes of the two malefactors.

Comment upon this tragic occurrence is needless. It tells its own story and bears its own moral.

A few words may be added as to the mortality of this pestilence and the measures adopted by the authorities to encounter it. Like all statistics of those early

times, the estimates are variable, but there are letters from the Sanità to the Governor, which state the then daily mortality at 500. It is probable that the total number of deaths was about 150,000.

The tribunal of the Sanità, a body something like a modern board of health, seem to have acted with sense and energy, though impeded by the obstinacy and ignorance of the Senate, the Council of Decurions and the Magistrates. To declare that the plague had appeared in Milan was to drive the people off, and to frighten trade away. The two physicians of the Sanità, Taddino and Settala, scarcely dared to appear in the



FIG. 2

streets, and the latter, who was 80 years old, nearly lost his life from the angry mob. Later, when the existence of the pestilence had to be admitted, some strange precautions were adopted. An immense procession was to proceed through the city in honor of San Carlo and to implore his aid, and the authorities ordered the doors of all sequestered houses to be nailed up lest the distempered inmates should try to join the procession. There were 500 such houses, according to the Cavalier Somiglia, who also wrote an account of this fearful time.

An immense hospital was constructed to accommodate 2000 persons, though at one

¹² In the *Processo originale degli Untori*, Milan, 1839, there is at the end a folding plate, which is a poor copy of this engraving. The editor speaks of the original as "una stampa di quel tempo."

time, in the height of the disease, the number of its patients had increased to 16,000. The pits dug for the dead became filled, and bodies in all stages of putrefaction were lying in houses and in the streets. In despair, the Sanità applied to two priests who had been efficient in their aid. They promised that in four days all the corpses should be removed. They went into the country, and summoning the people in the name of religion, they succeeded in having three immense pits dug. The *monatti* of the Sanità were employed to bring out the dead, and in the stipulated time the good fathers had fulfilled their pledge. The persons in the employ of the Sanità for re-



FIG. 3

moving corpses were of three grades. The *monatti* carried the bodies out of the houses and carted them to the pits. The *apparitori*, or summoners (the name is still preserved in the English Ecclesiastical Courts as apparitors), went before with a bell notifying the people to bring out their dead. The *commissari* were in control of the other two. It will be remembered that the unfortunate Piazza was a commissario.

Among the precautions taken by physicians for their own protection, while visiting plague-stricken patients, was the adoption of a particular dress. Paré recommends that the material should be camlet, serge, satin, taffeta, or morocco, but not cloth,

frieze, or fur, lest these latter should harbor the poison, and death should be thus conveyed to the healthy. Manget, in his *Traité de la peste* (Genève, 1721, 2 vols.), has a frontispiece to the first volume representing the dress of a doctor during the plague at Marseilles. From his description it seems that the mantle, breeches, shirt, boots, gloves, and hat were all of morocco leather. The beak attached to the mask was filled with aromatics, the air passing over them in respiration. Figure 2 is a reproduction of this plate from Manget's work. In a recent number of *Janus* (Amsterdam, 1897, p. 297), M. Reber gives an interesting account of an engraving in his possession, the work of the artist John Melchior Fuesslin, which also represents a doctor at Marseilles during the plague, and is, he thinks, of about the same date as the work of Manget. His engraving is herewith reproduced as Fig. 3. The legend underneath may be translated:

"Sketch of a Cordovan-leather-clad doctor of Marseilles, having also a nose-case filled with smoking material to keep off the plague. With the wand he is to feel the pulse."

In Manget's sketch the *Steklein* becomes a veritable stick, but the information conveyed by it would probably be quite as useful in the one case as in the other. The appearance of this leather-clad doctor, with his *nez fumant*, could scarcely have been reassuring to the plague-stricken wretch.

Since this address was written I have received the March number of the *Bristol Medico-Chirurgical Journal*, which contains a notice of the Manget and Reber sketches by Dr. L. M. Griffiths, the accomplished assistant editor. He reproduces the plates from the *Janus* blocks, and mentions that an amulet of arsenic was worn on the chest in time of plague, as a prophylactic, in the city of Bristol, as well as elsewhere. He quotes Kemp's treatise, 1665, thereanent. Ambroise Paré had, however, recommended this device a hundred years before. It was to be worn over the heart, in order that "the heart might become accustomed to poison, and so be the less injured when other poisons sought it."—*Johns Hopkins Hospital Bulletin*.

Ointment for Acne

Hebra and Ullman (*Cent. f. d. ges. Therapie*, May, 1898) recommend the following:

R Ichthyol.
Bism. Subnit.
Ammon. Mercury.....aa 2.0 (30 grn.)
Vaseline..... 12.0 (3 dr.)
R.

ADDRESS

DIABETES MELLITUS AT THE MASSACHUSETTS GENERAL HOSPITAL FROM 1824 TO 1898. A STUDY OF THE MEDICAL RECORDS

Presented to the Section on Practice on Medicine, at the
Forty-ninth Annual Meeting of the American Med-
ical Association held at Denver, Colo., June
7-10, 1898.

By **REGINALD H. FITZ, M.D.**, and **ELLIOTT P. JOSLIN, M.D.**,
Boston, Mass.

The examination of the records of the cases of saccharine diabetes treated in the wards of the Massachusetts General Hospital during the past seventy-four years was begun for the purpose of seeking evidence with regard to the pancreatic origin of this disease. (See *Yale Medical Journal*, 1898, IV, 275.) Since several hundred volumes were to be searched it seemed desirable to obtain at the same time information upon other points which might contribute to the statistics of diabetes. Facts of interest in diagnosis and treatment were elicited as the study progressed and this paper is offered rather as a historical sketch of the progress of a disease drawn from the original records than as an attempt to advance in any way our knowledge of the subject. Since diabetes mellitus was first sharply differentiated from diabetes insipidus early in the present century, the hospital records may be considered to be nearly as old as is our knowledge of the disease in question.

During these seventy-four years the total number of cases of diabetes mellitus treated in the medical wards was 172, but of these, 9 were readmitted, making 181 separate entries. The following table shows the variation in the number of such patients during successive periods of years and their proportion to the total number of cases treated during the same periods:

Period	Total number of patients	Number of cases of diabetes	Per cent.
From 1824 to 1840.....	5,328	7	.13
From 1840 to 1855.....	6,136	16	.26
From 1855 to 1870.....	8,660	24	.27
From 1870 to 1885.....	11,600	39	.33
From 1885 to 1898.....	16,085	86	.53

It appears from this table that within the past thirteen years as many cases of diabetes were admitted to the hospital as in the previous sixty-one years and the per cent. in the past thirteen years in proportion to the total number of hospital entries has increased fourfold over that of the first fifteen years. This fact is not due to any recent increase in the number of beds open to this

class of patients, nor, presumably to any considerable excess in the frequency of this disease in the region from which the hospital receives its patients. Whatever may be its cause this occurrence is to be regarded as evidence of the wholesome tendency of diabetics to place themselves under careful medical supervision for such length of time as shall permit suitable observations to determine the severity and controllability of the disease, that the future conduct of the patient may accordingly be regulated.

Of the 172 cases, 127 (or disregarding fractions, 74 per cent.) were males and 45 (or 26 per cent.) were females. The oldest patient was 73 years of age and the youngest 5 years, the average age of 161 patients being 33.4 years. The average age among forty female patients was 39.1 years, being higher than that in 121 males in whom it was 31.4 years. The following table represents the time of life at which the disease began:

Age	Number of cases	Per cent.
From 0 to 10 years.....	3	1.8
From 10 to 20 years.....	15	8.8
From 20 to 30 years.....	41	24.1
From 30 to 40 years.....	43	25.3
From 40 to 50 years.....	29	17.1
From 50 to 60 years.....	28	16.5
From 60 to 70 years.....	11	6.4

Diabetes thus is shown to be a disease predominantly affecting the middle third of life, though sparing neither the child of 5 nor the senior of 73.

But one of the patients was a negro, a further illustration of the rarity of diabetes in this race, although Tyson (*Practice of Medicine*, 1896, 751) has met with several instances. Ninety-seven of the patients lived in the United States, and eighty-three claimed this country as their birthplace. Thirty-nine of the patients were born in Ireland, eleven in the British Provinces, nine in England, four in Scotland, seven in Germany, two in Sweden, and one in Denmark. Forty-three of the patients were mechanics, twenty-three servants, seventeen laborers, and thirteen farmers. Of merchants there were five, and of clerks seven. There were five mariners and four teamsters. Although four of the patients were students there were but two professions represented, a clergyman and an artist being included among the entries. There were single or a few representatives of several other occupations, and conspicuous for its absence was that of liquor-dealer.

In forty-two cases the question of an inherited tendency to the disease was raised and this factor was stated to have been

present in ten patients and absent in thirty-two. In one case the father died of possible diabetes and this disease was the cause of the death of a brother and his daughter. The brother of one diabetic patient fell upon the ice, striking his head and died of diabetes four days later. In three of the cases the symptoms of diabetes came on within a few weeks after severe injury.

One of these patients while working in a mill in July so strained his back by lifting a heavy weight that he was unable to accomplish much afterward on account of supposed weakness of the spine. In August the appetite became increased and in December he entered the hospital for treatment of diabetes. The second was buried in a sand-bank three months before entrance and was taken out unconscious. Six weeks later thirst made its appearance as the first symptom indicative of the onset of the diabetes. The third fell fourteen feet and struck on the back of the head. He was unable to work for a fortnight. Very soon afterward he began to have great thirst, hunger, and frequent micturition of large quantities of urine. The disease began in a female patient one month after very hard work in caring for a sick sister. The possibility of contagion was entertained in the case of a servant whose mistress was suffering from a severe variety of diabetes.

Post-mortem examinations were made in fifteen of the forty-seven fatal cases. As is usual in this disease no characteristic lesions were found. The liver generally was normal in appearance although sometimes enlarged and in one instance it was rather small. The kidneys, as a rule, were normal, were enlarged in one instance, congested and with fat-drops in the cortex in another, enlarged and hemorrhagic in a third, enlarged and infiltrated with round cells in a fourth. The stomach was large in two cases and Brunner's glands were found "developed" in a case under the care of Henry I. Bowditch in 1848. The condition of the pancreas was not mentioned in seven of the cases. This gland was stated to be normal in five and small in three instances. In one of the three its tissues were not remarkable, in another there was a moderate infiltration of fat-tissue around the head of the gland, and in the third the weight was recorded as an ounce and a half, the section showing a coarsely granular surface.

No attempt has been made to note the relative frequency and the severity of the various symptoms. Particular attention has been paid, however, to the records of the condition of the urine, since they fur-

nish a valuable commentary of the progress of our knowledge concerning the methods of studying this secretion.

In the earliest volumes of the records especial importance was attached to the measurements of the quantity of urine passed as compared with the quantity of liquids ingested, since formerly it was the belief that patients excreted more urine than they drank liquid. As an illustration the following table is copied from the record of a case:

TREATED IN 1861.			
Date	Water Drank—Pints	Urine voided—Pints	Specific gravity
April 28..	7½	23	1030
April 29..	4½	9+	1030
April 30..	4	11	1034
May 1....	3	8	1033
May 2....	4	9	1037
May 3....	4	10	1037
May 4....	4½	10	1035
May 5....	About 4½	5	1035
May 6....	About 6	10	1037
May 7....	About 7½	11	1035
May 8....	Out of house.	6	1035
May 9....	Out of house, 5.	9	1030
May 10..	Not known.	6	1030
May 11..	Not recorded, patient went frequently to stool.	..	....
May 12..	6½	10	1033
May 13..	4½	10	1027
May 14..	7	11	1035
May 15..	7	10	1034
May 16..	6½	10	..
May 17..	6, bread out.	10	1037
May 18..	7	10	1030
May 19..	8	10	1030
May 20..	7	12	1030
May 21..	8½	14	1031
May 22..	8	18	1031
May 23..	7½	14	1033
May 24..	10	17	1031
May 25..	7, bread renewed.	16	....
May 26..	5½	16	1032
May 27..	14	15	1031
May 28..	..	16	1033
May 29..	8	16	1034
May 30..	..	10	1032
May 31..	6½	10	1032
June 1...	7½	12	1030
June 2...	6½	9	1031
June 3...	7	12	1030
June 4...	7½	9	1030
June 5...	..	11	1030
June 6...	6½	12	1025
June 7...	7½	12	1026
June 8...	..	10	1033
June 9...	9	14	1022
June 10..	..	18	1022
June 11..	11	18	1020
June 12..	11	18	1020
June 13..	Out of the house.	..	1021

It is noted, for instance, in Vol. I, that a patient with diabetes simplex from December 2 to December 11, 1821, ingested forty-five pints and seven gills, but excreted forty-five pints and four gills. The first patient who is recorded to have had diabetes mellitus entered the hospital in 1824; and during the first three days of his stay is credited with drinking twenty and one-half pints of fluid, and is charged with passing twenty-five pints of urine.

This doctrine of an excess of outgo of urine over income of fluids appears in 1847 in Watson's Practice of Physic (3d American Edition, p. 869) as a statement that the

"quantity of urine secreted and voided is sometimes enormous, far more than could be supplied by the quantity of fluid taken as a drink."

Twenty years later, Harley in his work on diabetes says (p. 50), "diabetic patients generally pass more liquid than they take, about one-fifth or one-fourth more."

Lauder Brunton in 1879 (Reynold's System of Medicine, 1879, p. 387) opposes this view in the following words: "It has been said that the quantity of urine excreted by the patients is greater than that of their beverages, but this can hardly be the case, and the observations which seem to support this view have probably been made for too short a time, the apparent excess being most likely derived from water lodged in the system."

The difficulty of eradicating this erroneous idea is indicated by the fact that a recent graduate of the Harvard Medical School and of the Massachusetts General Hospital, seriously asserted that "it is perfectly well known that a person passes more urine than he drinks fluids." Such a view is based probably upon a misinterpretation of the physiologic teaching that more fluid is eliminated from the body in respiration and in secretion from the various glands than is taken in as liquid. In this connection it is interesting to note that a metabolism-experiment in diabetes was made at the hospital in 1845. For it is then recorded that "in the last twenty-four hours ingesta were, solid 30 oz., liquid 54 oz. Total 84 oz. Egesta were, solid 8 oz., liquid 26 oz. Total 34 oz. Difference 50 oz."

The largest quantity of urine stated to have been voided in twenty-four hours was 576 ounces. The record of this patient is, "June 26, 1861, urinated thirty-six times; voided thirty-six pints. . . . It contained 3 per cent. of sugar, corresponding to 227 grains in one pint." Only six of 166 patients passed over 300 ounces in one day. The highest specific gravity recorded is 1054, although repeatedly it was found above 1045. The highest percentage of sugar mentioned was 12.5 per cent. In many instances there was present between 9 and 10 per cent. of sugar.

The finding of sugar in the urine was determined in the first instance until 1851 by means of the taste. The physician in charge sometimes called upon the house-physician to apply this test, although a positive statement to this effect is found only in 1844 and again in 1845. It is probable, however, that the patient was occasionally called upon to use this method, for in 1831 the statement appears, "on tast-

ing, as directed to do by the physician . . . it was found sweet." This patient is credited also with the ability to make quantitative determinations in this way, for "he observed, however, that if he relapsed at any time, even in a very slight degree from a rigid animal diet, the urine was increased correspondingly in sweetness and quantity."

In another instance it is stated that the urine is "less sweet after eggs." In general the patient at the time of entrance was able to make such positive statements as made apparent the condition of the urine. One "reports urine sometimes natural, at others sweet." It had the "sweetest taste," or was "sweetest to the taste." The urine had a "saccharine smell and taste," or presented a "sugary appearance on the shirt," or the "urine upon cloth leaves sticky and sparkling deposit." The intelligence of the lower animals sometimes aided in the diagnosis, for of one patient's urine it is stated that "flies gathered upon places moistened by it." Such every-day methods of diagnosis are still in use, for it is but recently that an office-patient stated of her diabetic mother that her "clothes would rattle like starch, so sugary was the water, like brine on the floor."

These rude methods of testing the saccharine condition of the urine were supplemented in 1827 by evaporating the specimen. It is recorded "urine yesterday sixteen ounces, . . . seven ounces this morning, . . . sixteen being boiled about two remains (*sic*), resembling molasses, of saccharine smell and taste." In the following year, "urine seven pints, natural appearance, without sediment, not giving syrup on evaporation." It is stated also that eight ounces of urine yielded one ounce of syrup, and at the end of the record of the autopsy of a fatal case it appears that specimens of the saccharine matter and of the nitrate of urea prepared from the urine on different days by Dr. Charles T. Jackson will be found in the cabinet of the Society for Medical Improvement, Nos. 566 and 567.

In 1833 we learn that "one quart of urine boiled to the consistency of thick molasses weighed two and one-half ounces. On the 12th the same quantity boiled as before weighed three ounces." This method was still in vogue in 1842 for "two ounces carefully evaporated gave about a drachm of clear extract of the color and consistency of treacle," and four years later the evaporating method still was employed.

In 1841 Trommer's test was made known (*Annal. der Chemie und Pharmacie*, 1841,

XXXIX, 360) and in 1842 the hospital-records state that the "urine was unaffected by heat, nitric acid, or aqua potassa." In this year the fermentation-test also was first employed.

In 1846 the following letter from Dr. John Bacon, Jr., is entered in the records, and shows the results of his investigations for the purpose of determining the nature of the sugar to be found in diabetic urine. It seems worthy of reproduction as an illustration of the scientific methods employed even fifty years ago in the investigation of disease.

BOSTON, May 12, 1846.

DR. J. B. S. JACKSON.

Dear Sir:—The microscopic examination which I have made at your request, of the sugar from diabetic urine has afforded some results worthy of mention. The specimens of saccharine urine placed in my hands were from two diabetic patients now in the hospital. My first attempt was to obtain the sugar in a crystallized state by the evaporation of successive portions of the urine on slips of glass, both spontaneously and by the aid of a gentle heat. But the results obtained in this way were unsatisfactory from the difficulty with which this variety of sugar crystallizes, and the following process was substituted. The urine was evaporated over a salt-water bath, to the consistence of a thick syrup, and drops of this, spread very thinly on slips of glass, were left to spontaneous evaporation. In the course of a few days the liquid disappeared, leaving on the glass little hemispherical grains of a white color (none of them as large as the head of a pin), either isolated or collected into mammillated crusts. With the urine of the male patient, Pettigrew, two or three days were sufficient for this purpose; that of the female patient, Gould, which appeared to contain less sugar in proportion to the other constituents, required more than a week's exposure.

The objects thus procured were prepared for the microscope by covering them with Canada balsam. Being now examined with moderate powers, each little grain resolved itself into a compact group of fibers radiating from a central point, many of their ends projected beyond the mass, but exhibited no distinct crystalline faces. This radiated structure, with a fine silky luster, becomes distinctly visible to the naked eye in the larger grains, when they are covered with the balsam. The aid of the polarizing attachment to the microscope was now called in to decide the question as to the crystalline structure of the grains, when the rich and varied colors exhibited in the polarized light left no doubt of their really being groups of radiating acicular crystals. Among these masses of sugar there were noticed a few groups of more distinct crystal, not arranged like them in a stellate manner, and presenting entirely different appearances in polarized light. These are doubtless some of the saline constituents of the urine. As diabetic sugar is classed with that variety to which from its abundance in the juice of ripe grapes the name of grape-sugar is given, it became of interest to compare the appearance of the two under the microscope. Grape-sugar is present in large quantity in honey, and is the variety formed from starch or from cane-sugar by long-continued boiling with dilute sulphuric acid.

This variety is entirely distinct in its character from the common or cane-sugar. A portion was prepared from honey and dissolved in alcohol, the solution, evaporated to a syrup and prepared for the microscope in the same manner as the diabetic urine, crystallized in groups of radiating fibers like the diabetic sugar, and presented similar appearances under the microscope, both with and without the polarizing attachment. An alcoholic solution of the diabetic sugar was also prepared, which crystallized in the same manner; a similar solution of cane-sugar afforded no radiated groups, but distinct prismatic crystals which gave fine colored rings in polarized light. Under the microscope the urine of both patients (before evaporation) is seen to contain great numbers of colorless globules, often connected in chains or groups of half a dozen or more. I made a cursory examination for urea, by evaporating an ounce of the urine from each patient to one-quarter and adding an equal volume of nitric acid. Pearly crystalline plates of nitrate of urea soon made their appearance in both, showing urea to be present in considerable amount, but the quantity of urine operated upon was too small to allow of a correct determination of the amount.

Yours respectfully,

JOHN BACON, JR.

Although Moore's test had been made known in 1844, the first mention of its use in the hospital was in 1851, when the following record appears, "glucose strongly marked on the addition of heat and liquor potassæ."

In 1852 Dr. Bacon determined, by what means it is not stated, that the per cent. of sugar in a given urine was 4 per cent. and two years later the fermentation method was employed for ascertaining the percentage.

The breath of diabetic patients first attracted attention in 1835, when a man entered the hospital with a note from his physician stating that it had a "peculiar sour smell." The observation made of this patient while in the hospital was of "a curious smell in breath which he has had since entrance." In three cases the breath is stated to have the odor of new milk. In 1846 it is noted of one of these "odor of breath considered by some of aromatic sweetness." Other expressions are in 1846, "odor of boiled milk;" in 1848 "ward distinctly tainted with smell peculiar to diabetes," "fruity odor;" in 1869 "sweet chloroform-like smell in neighborhood of patient's bed."

That the acetone-odor of the breath then was attracting general attention is apparent in 1847 from the statement made in Watson's Practice (op. cit. p. 868) that "according to Dr. Prout the scent somewhat resembles that of sweet hay, but to my nose it is more like the smell of certain apples, or rather of an apple-chamber." He attributes the peculiar odor to the sugar. In

1866 in Harley on Diabetes (op. cit.) there is no mention of acetone or of diacetic acid, although Petterss (*Prager Viertel-jahrsch*, 1857, lv) several years before had attributed the coma of diabetes to the former agent.

Acetone was sought for in the breath of 19 cases, and in the urine of 24 cases. Its presence was indicated by the odor in 16 of the former, and by chemical tests in 14 of the latter series. It is interesting to note in connection with the result of recent investigations on the increase of acetone in consequence of a change to an absolute proteid diet, that the records state in 1894 that the "acetone-smell has been more since disappearance of sugar than at any other time." Ten days later, however, without any change in diet there had been no return of sugar and no smell to the breath.

The ferric-chloride reaction, which, when positive, is considered generally to be evidence of the presence of diacetic acid, was sought for in 22 cases and found in 13. Albuminuria was present in the urine in 67 cases and was absent in 60 cases. Casts were found in 36 cases.

In four cases only there is a record of the examination of the feces. In 1844 a patient reported that his "food frequently passes away in lumps undigested" and fat is reported as absent in the stools of three patients.

In six cases there was tinnitus aurium and two patients had sciatica. Sexual power is noted as absent in 9 cases and present in 4. The catamenia were present in 11 cases and absent in 9. Jaundice is mentioned to have occurred in five cases, and three of these patients died in the hospital, one of pneumonia and one of atrophied pancreas. Syphilis is stated to have existed in one case. Diabetes and myxedema coexisted in one patient, and in another diabetic there was a tumor of the thyroid body. Three of the patients suffered from gangrene of the toe, a fourth had a gangrenous slough of the tissues of the leg, and a fifth died with a carbuncular-like inflammation of the thigh. Three of the patients had abscesses, one being of the hip, another of the wrist, both cases ending fatally. The third abscess was of the jaw, but the patient grew better. In one case there was a round ulcer of the toe, which improved under treatment.

The records afford some evidence concerning the duration of the disease, which in one case is stated to have existed for twelve years, while three patients had suffered but two weeks. Of the latter, one died, one was relieved, and one unrelieved.

The average duration was one year and a half.

The length of the illness in the fatal cases is indicated in the following table:

DURATION	NUMBER OF CASES
From 0 to 1 year	27
From 1 to 2 years	7
From 2 to 3 years	3
From 3 to 4 years	1
From 4 to 5 years	0
From 5 to 6 years	1
From 6 to 7 years	1
Unknown	7
	47

These cases, necessarily those of grave diabetes, thus ended fatally in nearly three-fourths of the number in which this point could be determined within one year after the disease made itself manifest, and within two years in nearly seven-eighths of the entire series.

The diabetes may prove fatal at the end of a longer period of time, from 6 to 7 years as in one instance, is attributable to the well-known fact that cases of mild diabetes may become suddenly severe, and that the symptoms of this disease may for a while disappear to return at a later period. An illustration of the latter condition, one which may be called recurrent diabetes, is to be found in the record of a patient who was in the hospital in 1862.

In March, 1861, he suffered from cough with abundant yellow expectoration. In the latter part of the month the thirst increased and became excessive; the patient drank freely and passed large quantities of pale urine. The appetite failed, and there was progressive debility. At the end of four months the quantity of urine became normal. The patient remained apparently well until the following February, when excessive thirst, polyuria, and debility returned, and it was observed that the urine left a sticky and sparkling deposit on cloth. Another instance of recurrence is noted in 1866. Two years previous to the entrance of this patient he observed that an abnormally large quantity of urine was being passed in the twenty-four hours and that the thirst was excessive. These and other symptoms continued for three months and then disappeared without treatment. At the end of eighteen months, however, they returned, accompanied by general weakness and faintness. It is recorded that the house-physician tasted the urine of this patient.

Of the 172 patients, 47, or 27 per cent., died. The mortality among the 127 male patients was 39, or 30.7 per cent.; of the 45 female patients, 8 died, a mortality of 17.7 per cent. The death-rate among the males thus proved nearly twice as high as

among the females. The following table illustrates the variation in the rate of mortality during successive periods of years:

Period	No. of cases	No. of deaths	Percentage of deaths
From 1824 to 1840.....	7	1	14
From 1840 to 1855.....	16	7	44
From 1855 to 1870.....	24	5	20
From 1870 to 1885.....	30	11	38
From 1885 to 1898.....	86	23	27
From 1824 to 1898.....	172	47	27

It has previously been remarked that from 1824 to 1885 there were treated 86 cases, the same number of cases as in the period from 1885 to 1898. It is certainly noteworthy that in each of these intervals there was an average of .27 per cent. of fatal cases, which, again, was the average mortality-rate of the cases treated throughout the entire period from 1824 to 1898. It might be thought from the inspection of this table that the method of treatment was superior from 1824 to 1840 and from 1855 to 1870, and that in the intervening years it was inferior. The information on this point later given affords no justification for such an inference.

Although it appears from the study of the records that most cases of grave diabetes die within a year or two of the onset of the disease, and that 27 per cent. of all cases are fatal, some evidence has been obtained with regard to the prognosis in the individual case. Heredity appears to have less importance than is usually assigned to it. Of ten cases in which heredity may have been of etiologic significance three died, while of thirty-two cases in which heredity had no influence eight died. Thus the percentage of deaths was merely a trifle higher in those cases in which an inherited tendency to diabetes may have played a part than in those in which no such influence existed.

The time of life at which the patient suffers from the disease appears to be of greater prognostic importance, as may be inferred from the following table:

Age	No. of cases	Deaths	Per cent.
From 0 to 10 years.....	3	1	33
From 10 to 20 years.....	15	3	20
From 20 to 30 years.....	41	14	34
From 30 to 40 years.....	43	13	30
From 40 to 50 years.....	29	4	14
From 50 to 60 years.....	28	5	18
From 60 to 70 years.....	11	5	45
	170	45	

Thus about one-third of the patients suffering from diabetes during the first ten

years of life and between the ages of 20 and 40 years die, and nearly one-half of the cases between 60 and 70 years prove fatal. The number of cases of diabetes in young children, however, is so small as not to be of much value in generalizing. The high rate of mortality after the age of 60 is due, possibly, only indirectly to the diabetes, the patients perhaps being unable to resist the effects of other disease, even if mild, in the presence of so grave an affection.

Thirty-eight of the 47 fatal cases died comatose, the coma lasting one day in 10 cases, two days in 14, and three days in 5 patients. In the remaining 9 cases the duration of the coma was not to be determined. The frequency of the coma in relation to the age of the patient is indicated in the following table:

Age	No. of cases	Deaths from coma	Percent.
From 0 to 10 years.....	3	1	33
From 10 to 20 years.....	15	3	20
From 20 to 30 years.....	41	12	29
From 30 to 40 years.....	43	9	21
From 40 to 50 years.....	29	3	10
From 50 to 60 years.....	28	4	14
From 60 to 70 years.....	11	3	27

The suddenness of its onset in certain instances is apparent from the record of a patient in 1828, who was able to leave the hospital for a few hours, at the end of which he became comatose and died. In 1846 another patient absented himself from the hospital without leave and became intoxicated; two days later he was comatose and died at the end of another two days. On the other hand, a third patient while in the hospital became intoxicated, had no coma and lived.

It is to be observed that of twenty fatal cases of diabetes there were present chronic nephritis in six, pulmonary tuberculosis and carbuncle or gangrene each in three, myocarditis in two, and pneumonia, pleurisy, cerebral thrombosis, alveolar abscess and atrophied pancreas each in one. A patient with diabetes suffered at the same time from acute catarrhal cholangitis, acute rheumatism, and chronic bronchitis.

The study of the records of these cases affords some evidence relating to the prognostic value of the presence of acetone and diacetic acid.

Although the odor of acetone was present in the breath of 12 out of 14 fatal cases, that is, in more than 85 per cent., and in the urine of 6 out of 9 fatal cases, namely 66 per cent., in which the records show that attention was directed to this point, it was present also in the breath of 4 out of 5 non-fatal cases, 80 per

cent., and in the urine of 8 out of 15 non-fatal cases, 53 per cent. It is evident from this comparison that the presence of an acetone-odor in the breath or in the urine throws but little light upon the severity or mildness of the disease.

The ferric-chloride reaction was present in 6 out of 8 fatal cases and in one-half of the 14 non-fatal cases in which it was sought for. This evidence, so far as it goes, therefore, is in support of the view that this reaction has a somewhat serious significance.

It is interesting to note that in the earliest days of the hospital the improvement of the patient's condition was based upon an increase in weight.

It is to be remembered that John Rollo (Notes of a Diabetic Case, 1897) first ascertained that an animal diet not only decreased the quantity of urine, but also diminished the amount of sugar. The diet, therefore, from 1824 to 1840 was based evidently upon this discovery, and the first diabetic patient in the hospital was fed on "animal food and bread in small quantities. Only one potato (*sic*) at dinner." Later molasses, beer, and apples were excluded from his diet. In 1827 a patient's fare consisted of two eggs, at a meal, meat, milk, butter, and salt. Such a diet, however, was not exclusive, for mention is made that vegetable food and sugar were not to be taken, but rice and milk-porridge were allowed. Toast-water and broth were permitted, and crackers were given instead of bread. Thirst was quenched with chamomile-tea or balm-tea, and lemons also served for this purpose.

The unlimited use of liquids was not permitted, for one patient was allowed only a "teacup of liquid at meals." Another was given "balm-tea as little as will suffice," and it is stated of a third that he "thinks he has not drank all his allowance."

The first treatment the first patient received was a warm bath, and as the quantity of urine appeared to be less after the bath had been taken, it was ordered to be repeated every other day. Warm salt-baths also were used.

The advantages of exercise were appreciated at an early period, for one patient in 1831 was advised to ride horseback, and another was recommended to take as much exercise as his strength would permit.

Alcohol was given as early as 1828, when the physician in charge ordered, "Let her take some brandy and water, taking one teaspoonful of brandy in hot or cold water, repeating it once in three or four hours if the effects are grateful." There is nothing

in the record to show that its action was displeasing to the patient. The recent investigations of von Noorden ("Die Zuckerkrankheit und Ihre Behandlung," 1895, 146), show that this treatment has a sound scientific basis since one gram of alcohol is the equivalent of seven calories, while the same quantity of proteids and carbohydrates is equivalent only to four calories.

This patient was treated also with opium and "by error took following in A. M.:

R Infus. Sennæ Comp., ʒiij."

On the next day he "was uncomfortable in head with some depression of spirits." During this patient's stay in the hospital he was ordered powdered rhubarb and the infusion of rhubarb and magnesia; a trial was made also of uva ursi and of the sodium and potassium tartrate.

During the first fifteen years the treatment in general consisted of opium, either alone or with camphor and aloes. Cathartics were used liberally, and frequent mention is made of rhubarb, aloes, colocynth, senna, calomel, magnesium sulphate, castor-oil and croton-oil. Enemata were employed freely, some of them being especially designated "active." One patient who complained of nausea promptly received a dose of ipecac.

Among other drugs in use during this period were quinine and dilute nitric acid, the decoction of sumac and powdered guaiac.

Blisters and cupping often were used, and one patient "thinks opium and blisters have been followed by the greatest improvement." More severe counter-irritation was ordered sometimes, as appears from the record, "apply caustic issue on each side of the spine." In one case this application proved to be directly injurious.

During the period of high mortality, that is from 1840 to 1855, the following dietary is ordered: "Lean meat, with a small quantity of stale, dry, or toasted bread, avoiding all fatty, farinaceous, and saccharine articles. For drink, cold water and weak tea." The use of liquids continued to be restricted, although slippery-elm tea now came into use. Alcohol was not given regularly, and blisters no longer were applied. Leeches appeared to serve in the place of the latter and of issues for it is recorded, "Leach (*sic*) bites now ulcerated."

Opium continued to be given, but not so largely as previous to 1840. Cathartics were prescribed with freedom, and the liberal use of calomel is suggested by the frequent records of spongy gums and myrrh mouthwashes. Iron now was used in the form of

the tincture of the chloride or the carbonate. Other remedies employed were argentic nitrate, ammonium hydrosulphuret, ammonium carbonate, conium, hyoscyamus and valerian, aromatic sulphuric acid and creosote. During this period the use of yeast was tried by McGregor (Watson's Practice, p. 872), who stated that it made the patients feel as if they were "on the eve of being blown up." A patient in the hospital was ordered to "take yeast $\frac{3}{4}$ ss in milk *ter die*." This quantity was increased to an ounce daily and then was resumed and omitted at intervals during a month, the yeast being taken five-sixths of the time. The effect was not that mentioned by Watson, but a sense of constant nausea was the chief resulting complaint.

From 1855 to 1870 especial attention was paid to the selection of a suitable bread, and bran-bread, stale bread, brown dyspepsia-bread, toasted dyspepsia-bread, ship-biscuit, and toasted ship-bread were ordered. Butter, cabbage, cheese, and greens were allowed, but shellfish and liver were excluded. Liquids at times were restricted, and cocoa was given somewhat frequently. Alcohol was ordered occasionally, and one patient, notwithstanding milk-punch was prescribed *p. r. n.*, remained in the hospital but a single day, at the end of which he was discharged unrelieved. Opium was but little used, counter-irritants were discontinued, and there was but little variety in the use of drugs. One patient received a half-pint of iron-rust water at dinner. To another in 1866 was given a half-ounce of cod-liver oil three times daily. As "she likes it and don't have enough," the dose was increased to three ounces three times daily. This maximum dose was reduced in consequence of the production of loose movements of the bowels.

From 1870 to 1885 gluten-bread was used, but was discovered to contain 33 per cent. of starch. Patients were advised "to drink as little water as possible," but as much as four quarts of skim-milk were given daily. Opium and codeia were used frequently, but alcohol, blisters, baths, and exercise were not advised as a part of the routine treatment. On the contrary, a large number of drugs were employed, including Fowler's solution, bromide of arsenic, antimony, bismuth, phosphate of zinc, phosphorus, bromide of potassium, iodide of potassium, sulphide of calcium, salicylate of sodium, hydrochloric acid, lactic acid, gallic acid, pilocarpine, chloral, ergot, pepsin, Wilbur's oil, and Shaw's pill. One patient received what was called the glycerine-treatment, instituted by Schultzen

(Naunyn, "Der Diabetes Mellitus," 1898, 405). On the day after his admission he was given thirty-three ounces of glycerine and died comatose on the same day. The coma was accompanied by spasms, to relieve which ether was given, but the house-physician apparently feared that the death might be attributed to the effects of the ether.

* In the period since 1885, Soya-bean bread has been added to the dietary, and fats are used with freedom. The use of water is frequently, by no means always, restricted, and the use of skim-milk gradually has lessened. Alcohol, baths, and exercise are not made matters of routine. Opium and codeia are more often used than before, and trials have been made with potassium citrate, lithium carbonate, jambul, salol, salicine, antipyrine, and urethane. Saccharin occasionally is used. Up to this period comatose patients had been treated solely with stimulants and diuretics, and brandy, nitroglycerin, and oxygen were given frequently at the onset of coma. The use of solutions of sodium chloride or sodium bicarbonate in enema, subcutaneous injection, or by transfusion was begun and eight patients were thus treated. Although these patients died, as had those otherwise treated, it appears from the records that in certain instances life was somewhat prolonged. The patient's mind usually became clearer after the administration of the saline, and one person was aroused to such a degree that he is recorded to have said, "Oh! doctor, I'm glad you did that; I have not felt so well for a long time."

The practical outcome of this examination of the records of cases of diabetes treated at the Massachusetts General Hospital during the past seventy-four years can be stated in a very few words. The average mortality of saccharine diabetes has not changed materially, for it was the same in the past thirteen years as in the previous sixty-one years. The dietetic restrictions have undergone no essential alteration in this time. Opium is the only drug which has been persistently used in the treatment throughout this entire period.

Paste for Lupus

Unna recommends the following (*Rev. gén. de Pharm. et de Hyg.*, Vol. I, p. 2) in lupus:

Salicylic Acid.....	4.0	(3i)
Creosote	8.0	(3ii)
Simple Cerate.....	6.0	(3iss)
White Wax.....	2.0	(3ss)

Melt the cerate with the white wax; when somewhat cooler stir in the creosote and salicylic acid. R.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
• J. H. WINFIELD, M.D.

Paralysis of the Left Recurrent Laryngeal Nerve in Mitral Stenosis

Osler (*Mary. Med. Jour.*, Vol. XXXIX, No. 8), remarking on the above, called attention to a clinical point to which reference had not been made heretofore. He had seen two cases, one a woman with signs of cardiac failure, edema, and complete recurrent laryngeal paralysis; there was nothing to indicate pressure in the thorax, no aneurism or tumor. There were well-marked signs of mitral stenosis, the cause of the laryngeal paralysis, however, being left an open question. The patient improved, but the laryngeal paralysis persisted, and subsequently Nothnagel made a diagnosis of aneurism. She lived six years and had several attacks of cardiac failure and one of hemiplegia, the laryngeal paralysis persisting. The second patient, a woman aged 26 years, gave a history of scarlet fever, and presented the well-marked features of mitral stenosis with left recurrent paralysis. She died with cardiac dropsy. The writer referred to two cases recently described by Ortner, of Vienna, in which the condition was supposed to be due to pressure from the distended left auricle on the recurrent laryngeal nerve. In the first aneurism was diagnosed, but the autopsy showed the left auricle enormously distended and enlarged. In the other case the nerve was flattened out between the roof of the auricle and the aorta. In all these cases there was also adherent pericardium. L.

The Microbe of Influenza and Acute Grippal Otitis Media

Le Bulletin méd., No. 18 (March 2, 1898, p. 203), contains an article by Dr. Loewenberg, which refers back to another article by Calmette on "The Bacillus of Influenza," in No. 4 of *Le Bulletin méd.* (Jan., 1898), and which supplements it as follows:

From the outset of the great epidemic of 1889-'90, the author has conducted bacteriological researches on the microbial element of grippal otitis. Pfeiffer discovered the bacillus peculiar to influenza in 1892. After cleansing the external ear antiseptically and piercing the phlyctenule of the drum-membrane with a sterilized myringotome, the sterilized platinum wire withdrew some

of the exuding liquid and stroked it on to the surface of a culture-medium of gelatin covered with fresh pigeon's blood, after the manner of Pfeiffer. Where the drum had already broken, the wire or tube was introduced directly through the opening. The canal in both cases was guarded by a sterilized speculum. Where patient refused to allow introduction of the speculum and wire, Kitasato's method was used: Agitation of a portion of the contaminated matter in sterilized water or bouillon to remove the bacilli gathered by flow through outer canal. Of this the central portion only was employed to give the specimen. The result of these examinations of the middle-ear pus, relative to the coccobacillus of Pfeiffer, was *nil*. The plates gave no colony of this microbe, and showed only the ordinary agents of ear-suppurations, streptococci especially, and often staphylococci. Microscopical examination of the blood obtained from the puncture of the phlyctenules of the drum-membrane showed very few leucocytes. Here and there a few encapsulated diplococci were found, very different from the pneumococci. A large coverglass of blood would show only a few lymphocytes and a single poly-nuclear leucocyte enclosing such encapsuled cocci, and an extremely small bacillus completely colored red by Ziehl's solution. This proved the absence of the cultivable grippe-microbe, though the very small bacilli were present.

The explanation is that Pfeiffer's bacillus, present in certain epidemics of influenza, on the mucous membranes of the upper air-passages, is carried into the middle ear through the Eustachian tube by sneezing, blowing, etc., and there develops on a favorable soil, so as to produce most violent inflammation. But, on the other hand during swallowing the mouth normally communicates through the Eustachian tube with the middle ear; so, also, in coughing, enabling staphylococci and streptococci of the ordinary air of respiration to be thus introduced. So that, as soon as Pfeiffer's bacillus has started the inflammation, these harmful microbes, less exacting as to conditions of vitality, usurp the soil from Pfeiffer's bacillus, and it perishes in the "struggle for life," perhaps especially for lack of oxygen which the others monopolize to the detriment of the grippemicrobe that is strictly aerobic. The streptococci and staphylococci can do without the oxygen. Whatever the explanation "no living bacillus of Pfeiffer has been found in the pus or blood running from grippal otitis." The author believes the inflammatory changes which result in the purulent discharge, occur only after the vitality of

the Pfeiffer bacillus has been extinguished by the development on the same soil of the baneful streptococci and staphylococci. Hence the diagnosis of an acute otitis media as grippal cannot be made on the microscopic examination of the pus or blood discharged from the tympanic cavity.

The epidemic of 1889-'90 gave the first opportunity of studying the symptoms of otitis of grippal origin. They are these:

1. At the outset of the otitis phlyctenules filled with blood appear on the tympanic membrane, and sometimes cover it completely, but rarely appear on the walls of the auditory canal. These never appear in ordinary non-grippal cases of otitis. When the phlyctenules break and blood oozes from them, the membrane itself is at first not yet broken through to give exit to pus from within the tympanum.

2. Perforation occurs through a kind of baggy polapse of the tympanic membrane like a cow's udder, which ultimately may become pyriform.

3. Tendency to early complications with processes rapidly destructive in the mastoid, acute caries and necrosis, thrombosis of sinuses, pyemia. Osteitis may occur at the outset, developing quietly without accompanying signs of inflammation of the tympanic cavity which may be invaded later.

4. Persistence of pains and buzzings of the ear, often more prolonged after the perforation than in non-grippal cases. The membrane once more healed and the scar closed by cicatrix, deafness may persist, though repair seems perfect.

These four characteristics even in the absence of bacteriological confirmation, will establish the diagnosis from non-grippal otitis media. Other constitutional signs of the grippe are of course to be observed at the same time. A bacteriological examination of sputum will be confirmatory.

The value of the diagnosis consists in the graver prognosis and greater reserve in making it, imposed upon us by the history of these cases. In treatment it calls especially for early paracentesis to lessen suffering and prevent damage.

H.

Immunity: Recent Theories Viewed from the Clinical Standpoint

W. G. Thompson (*Med. Rec.*, Vol. LIII, No. 2) believes that:

1. The phagocytic action of the leucocyte in combating infection is of but little importance, and is mainly concerned in the removal of waste products rather than the devouring of live bacteria.

2. The leucocytes probably secrete substances which are both inimical to living

bacteria and antagonistic to their toxins. The antagonism may be through digestion of the toxins and through counteracting the irritant effect of the toxins upon the general tissues of the body.

3. The antitoxins of the serum, whether artificially injected or developed within the body, do not act by chemical neutralization of the toxins, but through stimulation to greater resistance of either the leucocytes or the tissues, or both.

4. The blood itself, neither through its leucocytes nor through its serum, is capable of producing the phenomena of permanent immunity. To a limited extent only can it be relied upon for the prohibition of toxic symptoms.

5. It remains for the tissues to offer the final combat against the toxins and to develop a more or less permanent immunity. To this effort they may be incited by either toxins or antitoxins, in addition to the exercise of the inherent property of living protoplasm to resent irritation of any sort.

It is probable that natural immunity does not differ in kind from acquired immunity, which has been perpetuated for an unusually long period through succeeding generations.

S.

Tetanus in a Child Treated with Antitoxin—Recovery

Dr. John Zahorsky describes the following case (*St. Louis Med. Gaz.*, June, 1898): A well-developed boy, 27 months old, was first seen February 15, 1897. He had been sick for two days. The lips were pouting and marked retraction of the angles of the mouth showed the risus sardonius of lock-jaw. The lips were constantly separated and showed the teeth firmly pressed together. The masseters were hard to the touch. A few lymphatic glands were discovered beneath the angle of the lower jaw. The posterior cervical muscles were rigid—also the extensors of the forearm. The child was very timid and cried continuously, but with the mouth closed. As to traumatism: the child had fallen from a chair a few days previously, but without dermal lesions resulting. There were two scratches, one on the palmar surface of the forearm, one on the outer side of the leg; a cat, the parents said, had scratched the patient in these places. There was a tightly adherent prepuce. Temperature 99.4° F.; pulse much accelerated. Parents said a dog had died in convulsions in their yard a few days before. Subsequent microscopic examination of cultures from the dirt around this dog's kennel revealed enormous numbers of tetanus bacilli.) There

was no family history of tuberculosis, syphilis, or insanity. Patient had never before had convulsions or spasms. Two days later child was worse; that night the cat which had scratched patient died. On the following morning patient had a severe tonic spasm of the voluntary muscles. The arms were extended and firmly pressed against the sides; the lower limbs were rigid and extended; marked opisthotonos; teeth firmly pressed together; respiratory muscles fixed. Face was first red, then livid, then cyanotic; pulse became imperceptible. Child finally lay limp and apparently dead; artificial respiration was resorted to—with success; 1,000,000 units of tetanus antitoxin (Mulford) were injected; adherent prepuce was separated. A second, but a milder, seizure followed. In twelve days the child was well. A severe urticarial eruption occurred ten days after the injection of antitoxin. Chloral and the bromides had been given from time to time. G.

Cerebro-Spinal Fever

In a lecture on the above, Osler (*Mary. Med. Jour.*, Vol. XXXIX, No. 14, p. 717) draws attention to two points of very great moment in the diagnosis of the disease: Quincke's lumbar puncture, which enables one to make a comparatively early diagnosis, and the determination of the Diplococcus intracellularis as the probable cause of the disease. The spinal puncture as recommended by Quincke is a perfectly harmless procedure, though it sometimes requires a little skill to get into the canal. Not only does it do no harm, but in some cases it seems to be beneficial in relieving the pressure. If a dry tap be the result it does not mean that meningitis is not present, for the exudate in the meninges may be of such a buttery consistence that it cannot flow. The determination of the presence of the diplococcus in the fluid obtained by lumbar puncture makes the diagnosis positive. The prognosis in cerebro-spinal fever is by no means hopeless in a large proportion of cases, though that in other forms of meningitis, due to the bacillus of tuberculosis, or the streptococcus, or the pneumococcus, is very fatal. L.

Tuberculosis of the Throat—Its Treatment

In the treatment of tuberculosis of the throat, H. M. Thomas (*Jour. of Am. Med. Assn.*, Vol. XXX, No. 22) advises to combine constitutional with local measures. The treatment of the local lesions varies with their character, position, extent, accessibil-

ity, topical application, and influence on deglutition and respiration. Circumscribed thickenings with a non-broken surface may be treated with creosoted iodine in glycerin or menthol in solution of olive-oil. An ulcerated larynx can be relieved with an insufflation of iodoform in solution with sulphuric ether. Laryngeal secretion should be removed by direct application of alkaline sprays. When tuberculous ulcers are on the surface, lactic acid well rubbed in, with a 20 to 40 per cent. strength is valuable. When the resultant eschar falls, repeat the process until cicatrization is established. Where the mucous membrane is not broken, lactic acid, the writer believes, is negative, while 20-per-cent. solutions of menthol in olive-oil injected into the larynx are efficacious. Cough due to ulceration, may be mitigated by insufflation of morphine in one-sixteenth to one-half grain strength. Submucous injections, 3 per cent. of cocaine hydrochlorate for pain; orthoform is a valuable analgesic. Painful deglutition can sometimes be relieved by having the patient lie on his stomach, with head and arms over the bed, the feet being higher than the body. In this position water and nourishment can be siphoned through a tube reaching from a receptacle held below the mouth. Much temporary relief can be afforded by the inhalation of vaporized antiseptic oils, which, being carried directly to the abraded surfaces are deposited well over them, and through absorption and mechanical protection greatly allay many of the distressing symptoms attendant upon laryngeal tuberculosis. S.

Treatment of Infantile Eczema

Dr. Comby (*La Méd. mod.*, No. 4, 1898) says that in all cases of eczema in children the gastro-intestinal functions must be attended to. For this purpose he gives very small doses of calomel and the following combination:

R—Sod. Bicarb.
Calc. Magnesia
Benzo-naphthol. . . . aa 0.15-0.30
($2\frac{1}{2}$ to 5 grn.)
Powd. Nux Vomica. . . . 0.005-0.01
($\frac{1}{4}$ to $\frac{1}{2}$ grn.)
Mf. pulv., No. 1. Tal. dos. No. X.
S.: A powder once a day for 10 days;
then discontinue for 10 days, and com-
mence again.

To this prescription may be added some rhubarb, pepsin, or pancreatin; in case diarrhea is present, the calcined magnesia is replaced by salicylate of bismuth. If the child is anemic, some ferrous oxalate, .02-.05 ($\frac{1}{2}$ - $\frac{3}{4}$ grn.) daily is administered.

As to the local treatment, the author advises to give the child one sublimate bath

(1:10000) and then to stop bathing altogether. In severe itching, compresses with cod-liver oil or carron-oil are useful. Picric acid (1:100) is also to be tried. As applications the author recommends a 10 percent zinc or bismuth ointment, or, in extensive eczemas, the following powder:

R—Menthol..... 0.5 (8 grn.)
 Salicylic acid..... 1.0 (15 grn.)
 Starch
 Talcum
 Lycopodium..... aa 20.0 (aa 5 dr.)

R.

The Use and Abuse of Hypnotics in Insomnia

According to the *Post-Graduate* (Vol. XIII, No. 5) the use of hypnotics in the treatment of insomnia is simply the use of symptom-remedies; insomnia is a symptom, not a cause of disease nor a disease. Sleep is essential to the welfare of the organism in the same sense that food is. Deprivation of one or the other causes death in about the same period of time.

The use of hypnotics, therefore, should be temporary while the underlying cause of the insomnia is being removed or palliated. Nor, indeed, is it well at the outset to employ hypnotics without trial of other measures. Aside from the removal of somatic causes for sleeplessness, various general methods may be employed. One of the best is a bath at 104° F. for five minutes. The general cutaneous vascular dilatation, increased by rubbing with a coarse towel, is frequently followed by a good night's rest. Warm, liquid food, as a glass of hot milk, a bowl of soup, will often give satisfactory results. In fact, some of the hypnotics which, on account of their insolubility, must be given in considerable quantities of hot liquids, owe not a little of their reputation to the vehicle in which they are administered. In debilitated individuals, a glass of stout or whisky in hot water (hot Scotch) may work wonders. In tired subjects, strychnine sulphate in moderate dose acts as a hypnotic, not because it makes a too tired individual just tired enough to sleep, as a distinguished professor of medicine would have it, but because strychnine dilates the arterioles. Sometimes stimulation of the emunctories, as by sodium sulphate, again in hot water, taken at night will be followed by sleep, particularly in gouty subjects, not because it is hypnotic, but on account of its action on the liver, intestines, and kidneys. Methods which relieve pain—position, topical applications—are hypnotic.

Sleep is accompanied by cerebral anemia and systematic cutaneous vascular dilata-

tion. Any method which produces these effects will tend to the production of sleep. When these all fail, and after they do, hypnotics must be resorted to. The safest only should be chosen; they are chloralamide, pellatine, paraldehyde, and trional. The danger of hypnotics is immediate (death) or remote (interference with nutrition). The possibility of habit is always to be borne in mind. According to the article druggists are responsible for a large share of the abuse of hypnotics. Many openly prescribe hypnotics in doses far exceeding those considered safe, and, further, repeat prescriptions containing hypnotic drugs, even when the prescription directly forbids this. In England, sulphonal is sold as openly and carelessly as are the ordinary necessities of life. With equal ease coffee can be purchased for breakfast and sulphonal for bedtime. According to the writer the same is true in this country. The only remedy lies with the physician. Let him study his *materia medica*, learn his therapeutics, and apply intelligently what he has learned. Then, and only then, may he get the best results with the fewest disadvantageous symptoms, do the most for his patients, and, after all, rest with a consciousness of duty well performed. S.

Ice in Acute Pneumonia

Dr. T. J. Mays (*Pa. Med. Jour.*, June, 1898) would in acute pneumonia use ice in wide-mouthed rubber bags, or wrapped in towels; snow mixed with sawdust, or snow alone may be used. The size of the area to be covered depends upon the extent of the inflammation. In adults from two to five ice-bags should be used; in young infants one will suffice. If the pneumonia extends over both lungs the whole chest, front and sides, should be covered. The ice should be renewed according to the degree of fever; one filling usually lasts two or three hours. The ice should be applied until the temperature comes to or near the normal point and remains there; it is best to withdraw the ice by degrees, one bag at a time. Ice-bags may also be applied to the head when there is high fever, delirium, and restlessness. Cold diminishes the number of respirations, reduces fever, relieves pain, promotes a general feeling of well-being, tones up the heart and seems to have the power of checking the extension of the pneumonia. In the author's opinion, the refrigerating effects of local cold extend deep into the tissues; some do not consider this to be the case. Besides local cold, strychnine in $\frac{1}{4}$ - $\frac{1}{8}$ grn. doses, 4 times a day, morphine ($\frac{1}{4}$ grn.) hypodermically at

night to induce sleep, quinine as a tonic, the salicylates with salines for rheumatic complications, capsicum for delirium, dry tongue, and great depression, oxygen-inhalations for dyspnea and cyanosis, bleeding for plethoric patients, if necessary, and freshly expressed beef-juice, milk, etc., as nourishment;—these are indicated in addition to the ice-bag. G.

On Certain Changes in the Cells of the Ventral Horns and of the Nucleus Dorsalis (Clarkii) in Epidemic Cerebro-spinal Meningitis

Lewellys F. Barker (*Brit. Med. Jour.*, II, 1897, p. 1839) describes two kinds of alteration:

First, slight changes in the cells of the anterior horns, such as occur from various poisons, which he attributes to the toxemia of the disease; viz., (1) the disappearance of the stainable substance of Nissl from the dendrites or from portions of the dendrite or of a cell-body; (2) the formation of nodular swellings of the dendrites, these swellings corresponding to pathological accumulations of the stainable substance; and (3) a tendency to disorganization of individual Nissl bodies, especially at the periphery of the cell.

Second, lesions not at all similar to the first but practically identical with those which take place in the cell-body of a neuron after an injury of the axon which belongs to it. These latter changes were found in the cells of the anterior horns and in those of Clark's columns. The alterations in the anterior-horn cells are attributed to the involvement of the anterior nerve-roots in the meningeal inflammation; those in the cells of Clark's columns, not to an affection of the posterior roots, but to the damage done to the direct cerebellar tracts. The meningitis was particularly intense at this part of the periphery of the cord and the fibers of this tract are supposed to be the neuraxons of the cells of Clark's columns.

J.

Malaria in Tropical Countries

At a formal meeting of the German Colonial Society of Berlin, R. Koch recently gave the principal results of his pathological studies for nearly two years in German East Africa. *Le Bul. méd.* (No. 54, July 6, 1898) gives the following résumé of his communication: Malaria is the chief disease of the tropical regions, and its ravages are excessive. The healthiest are daily exposed to its invasion, no matter what their occupation. Once attacked their health is lost, and they are obliged to return to Europe.

To commence with etiology, there is an

animal disease which has a certain analogy with human malaria, viz., Texas fever in cattle, which Koch has studied in detail. Nothing definite was known about Texas fever until Smith discovered the parasite *Pyrosoma bigeminum* in the red blood-cells of animals having the disease. The disease is transmissible from one animal to another by means of a small quantity of blood. The agent of dissemination of the disease is, as Smith showed, a little insect, a tick. Animals from the North going into Texas are affected only when ticks from the Texas animals carry it to them. This disease has existed for ages in German East Africa, and Koch has there been able to verify Smith's discovery. He has taken ticks from healthy cattle and ticks from cattle having Texas fever, and has brought them into a place where this fever was unknown. There healthy cows were inoculated with the eggs of both kinds of ticks. Those inoculated with the ticks from the fever-cattle were attacked with fever; those inoculated with the eggs from the ticks taken from the healthy cattle remained in perfect health. Some animals taken to Texas do not become sick, which does not mean that they are immune against the disease. Animals born where this fever prevails have it light when young. They may take it again, but in a greatly modified form. The relative immunity protects against grave forms of the disease. Thus an artificial immunity is possible, and perhaps affords a vaccine against the disease.

Like Texas fever, malaria is due to a parasite of the blood. Under different forms it is found everywhere: its evolution is easy to follow in its peculiarities by the aid of the thermometer.

The quotidian form is due to two intermittent tertian fevers, of which the parasite appears in the blood in two phases of development, one corresponding to the actual attack, the other to a subordinate attack coming on twenty-four hours later.

What characterizes the tropical forms of malaria is their irregular evolution. The thermic oscillations are repeated for days and weeks. The attacks which last four, six, or eight hours, may recur with only a day's interval, or may appear daily. This graver form is seen in summer and autumn in Italy, but it occurs all the year round in the tropics. From Laveran and the Italian physicians we know that the culminating point of the parasite's development in the red blood-cell corresponds to the acme of the febrile attack.

In German East Africa there are four kinds of grave malaria, two of which are so rare as not to be very important. One of

the remaining two is also familiarly observed in Germany, is less severe, and is seen in about 10 per cent. of the cases. The other nine cases are represented by the severest form of tropical fever. From the appearance of the parasite, the variety of malaria can be determined, and the gravity of the case prognosticated.

This gravest form of malaria of the tropics Koch has found to be characterized by a special thermic curve when its march has not been modified by quinine. The attack lasts about thirty-six hours. The temperature rises at first rapidly, remains stationary for half the period of the attack, lowers slightly, ascends again to the same height, remains another half of the period at that high temperature, and finally descends rapidly to normal.

The giving of quinine has up to now been indiscriminate. The moment for administration is the one which precedes sporulation. Administered at this opportune time it cures malaria of the tropics. Koch cured all cases that he treated except two, which were too advanced to leave any hope. He attaches no importance to sanatoria on mountains. When a patient has the parasite in the blood, it matters little whether he lives on the coast, the plain, or the mountain; the fever recurs independently of the region where he is.

To avoid recurrence of attacks in patients cured of malaria, 1 gme. (15.5 grn.) is given every five days as a prophylactic for from six weeks to two months. The patient recovers so rapidly from this severe fever that he is fit to return soon to his work.

Koch regards hematuric fever as distinct from malaria. The malarial parasite is not found in these cases, and he thinks it may be quinine-intoxication; as to the pathogenesis we have suspicions, but no clearly positive knowledge. Direct transmission from man to man is impossible; transmission through the air is not always the same. Rapid desiccation of the blood and its parasites prevents propagation. Malaria does not come from water, for marsh-water can be drunk without contracting the disease. But mosquitoes seem to play a rôle in the dissemination of malaria. Infection takes place especially at night. Malaria ascends only where there are mosquitoes. In the German possessions of East Africa there is a little island where there are no mosquitoes; there is also no malaria. The province of Usambara has no fever, and no mosquitoes beyond a certain altitude. The transmission of Texas fever by ticks makes it likely that malaria is similarly carried by the suckers of mosquitoes. It is not by biting a diseased person and then a healthy

one that the mosquito infects. But it deposits its egg, which hatches out the parasite. This develops in the blood in a period of ten to fourteen days.

As to immunity, no one has it primarily; but it may be acquired through an attack from which one has recovered, or naturally, as the case of the negroes who live in paludal districts exempt demonstrates. A negro who goes from the mountains to the coast is attacked in a severe form with malaria. If the coast negro does not contract the fever, it is because his ancestors have imparted immunity to him. If immunity can be determined artificially against the cattle pest and hydrophobia, why not against malaria? Drying up of marshes and planting the eucalyptus will not remove the danger. The measure most needed is the sending to the colonies of enough doctors to administer quinine properly. The giving of quinine is not as easy as one thinks; none but physicians should give it.

It would be wise to build dwellings into which mosquitoes could not enter. H.

A Treatise on the Abdominal Echinococcus

Most (*Deut. Zeit. f. Chir.*, 1898, Vol. XLVIII, pp. 156-197) has written an extensive article on this subject and sums up his results as follows: The changes in the biology of the echinococcus which are of most importance are the inflammatory changes in and about the cyst, the relation of the parasite to the gall-duct, its death and finally the bursting of the cyst-wall. Death of the parasite and inflammatory changes in and about the cyst are frequently observed. As an exceptional occurrence, the parasite which may have been dead for a long while becomes infected and gangrenous, causing a general sepsis which greatly endangers the life of the patient. Because of the possibility of this accident, all operations which have for their purpose only the killing of the parasite and not its removal (such as bi-chloride injections) should be limited in their application to small and healthy cysts.

A complication worthy of being mentioned, is profuse flow of bile. Ordinarily it is not of great importance, but if, after a shorter or longer lapse of time after the operation, all or almost all of the gall has not been discharged through the wound and the jaundice has not disappeared, the condition of the patient should be considered critical. A few fatal cases may be traced to this complication as the chief cause of death; an increase in weakness is often observed in these cases of superabundant flow of bile. The treatment con-

sists in regulating the diet, which regulation tends to improve the general condition. If this treatment is not sufficient, some local operative procedure may be tried.

Bursting of the wall of the echinococcus cyst with emptying of non-injected contents into the abdominal cavity, often takes place without any serious symptoms, but in the majority of cases it is a most serious accident and one which often leads to the death of the patient.

The growth of the echinococcus takes place chiefly in a downward direction into the abdominal cavity. The presence of typical symptoms, uncomplicated by changes in the surrounding structures, will make a diagnosis easy. Inflammatory processes in the neighborhood or symptoms due to pressure on the surrounding organs may easily lead to errors in the diagnosis. Subphrenic echinococci, if they have developed up under the ribs, are extremely hard to diagnose and the prognosis is most serious. Sometimes, but very rarely, in cases where the cyst has suppurated the layers of the pleura grow together and this greatly simplifies any operative procedure. If the growth of the parasite is in an anterior direction the cyst will finally lie directly beneath the anterior abdominal walls and then both the diagnosis and any operation are rendered much easier.

Simple puncture, because of the known danger accompanying such a curative procedure, should be carefully avoided. If, however, for any reason it seems necessary to do it, the use of a medium-sized trocar and cannula and the taking away of a large quantity of fluid, so that through atony of the cyst-walls a secondary oozing of the fluid may be avoided, are recommended. A more extensive operation should always follow as soon after the puncture as possible.

In choosing the method of operation, that method should be chosen which is the least dangerous and most radical for the individual case. It is always essential that the peritoneal cavity be protected from the entrance of cyst-fluid. J.

On Erythema Nodosum in Young Girls

Although this affection is included among scrofulides, its existence is but little known, which leads G. Thibierge, Paris (*Med. Press and Circ.*, Vol. CXVI, No. 23), to discuss the subject, in that it may lead to serious errors of diagnosis. A case is cited in detail, the patient being a female, aged 23 years, the affection having dated from 15 years of age, since which

time the various lesions have succeeded each other almost without interruption, occupying sometimes one, at other times both legs, but never entirely subsiding. She had always been weakly and all along presented the characteristics of a lymphatic constitution, suffering, when a child, from adenopathy in the left submaxillary region, a fact strongly suggestive of tuberculosis. However, she fails to show the slightest trace either of glandular or pulmonary tuberculosis. The writer states it as a rule without exception, that the disease is only met with in subjects who are obliged to remain long in an upright position, the influence of the latter accounting for the disease almost invariably affecting the lower limbs. Its termination is either by absorption, with retrogression of the subjacent normal tissues, or by ulcerations. A constitutional treatment is always slow in producing the desired effect. Besides applications of emplastrum hydrargyri and Vidal's red plaster, the writer advises deep cauterization of all the patches with the galvano-cautery.

The Radical Cure of Malignant Disease by the Cataphoric Diffusion of Mercury from Gold Electrodes

G. B. Massey (*Phila. Med. Jour.*, Vol. I, No. 12, p. 512) offers a means which not only destroys all easily accessible cancer-cells, but also traverses selectively these prolongations with the same result, by the massive dissemination of the nascent oxychlorides of mercury and zinc throughout the tumor and its ramifications. As to the electro-physics of the method, the writer states that in ordinary electrolysis with a metallic electrode inserted into the flesh the current produces a decomposition of the tissues into their ultimate chemical elements, the oxygen, chlorine, and other electro-negative atoms of the molecules of flesh being released from combination and appearing at the positive electrode, the electro-positive atoms, hydrogen and the bases, appearing at the negative electrode. In the method under consideration, the interest lies in what occurs at the positive electrodes which are inserted directly into the substance of the cancerous growth. It was the oxychlorides yielded from a zinc electrode coated with mercury which first attracted the writer's attention to the possibilities of the cataphoric injection of lethal products into cancerous tissue. Coincident with the use of anesthesia for the purpose of an immediate penetration of all portions of the cancer, was the discovery that mercury could be employed as the active agent by amalgamating a gold electrode with it, and

that when mercury was so used it quickly disappeared into the tissues. In order to keep up the supply of mercury at the active surface of the gold so that a proper amount of the nascent salts of the pure metal might be disseminated through the tumor, instruments were constructed of 18-karat gold, made hollow and perforated at and near the extremities, a small glass syringe being used to inject the mercury through a soft rubber tube, after the instrument was in place. In a case of diffuse carcinoma of the breast the apparatus demonstrated that malignant cells could be killed at a considerable distance from the electrode and without causing the death of the intervening normal glandular and connective tissues. The duration of the application is important, since the mercuric salt has a definite cataphoric speed. In some carcinomas well situated for the method, effective results may be accomplished by a single application of from thirty to forty minutes' duration, with a free supply of mercury and a current-strength of from 300 to 1,500 ma. turned on gradually. In the larger growths, however, it is usually wise to repeat the process once or more at intervals of a month or six weeks. The immediate result of the application on the tumor is usually a shrinkage *en masse*, which continues for about a day, followed by an irritative reaction, at the height of which the organ swells and assumes a brighter color, followed several days later by a progressive subsidence. The infiltration must be thorough and massive to be sufficiently effective. Several cases are reported showing the results obtained. Illustrations are shown of the instruments used.

L.

The Treatment of Locomotor Ataxia by Exercise

Dr. Zenner concludes his paper with the following summary (*Cincin. Lancet-Clinic*, No. 16, 1898):

1. All cases are benefited by the exercise treatment, many to the degree of apparent recovery, unless there are special contraindications to the treatment. Failures usually mean faulty methods or that the treatment has not been persevered in sufficiently long.

2. Contraindications are: Loss of vision, mental impairment, bone- and joint-disease, spasticity, and muscular atrophy, the presence of strong irritation-symptoms, rapid progress of the disease, a state of great exhaustibility, and serious organic disease.

3. In cases of anemia, poor nutrition, and lax joints these conditions should be remedied before the treatment is instituted.

4. The conditions most favorable for the

treatment are: A stationary or almost stationary state of the disease, good general health, intelligence, hopefulness, and perseverance.

5. Light cases are more amenable to a (practical) cure, but bad, even bed-ridden cases often give brilliant results.

6. The necessary duration of treatment varies from a month or more for the lightest to six months or a year for bad cases, but the exercises must be kept up in order to insure the continuance of the improvement.

7. Success of treatment depends upon thorough knowledge of the method. This is especially true of bad cases.

8. Exercises should be chosen most suitable to the existing ataxia, and every effort should be made to do them with the greatest precision.

9. The sense of fatigue is often blunted in ataxics, while overfatigue injures them. The patient should, therefore, be guarded against too taxing or too prolonged exercises, or other unnecessary efforts.

10. To obtain most benefit from the treatment, the constant supervision of the physician, at least in its early periods, is absolutely necessary.

R.

Painful Paralysis of the Facial Nerve with Herpes Zoster of the Ear

Jacquet reports in the *Bull. et Memoires de la Soc. med des Hôpitaux de Paris* (Vol XV, p. 405) an interesting case of left facial paralysis which persisted for about five days, with the following additional symptoms:

1. Swelling of the preauricular region.
2. Painful edema of the left ear, with development of herpetic vesicles on the concha.

3. Painful point at the entrance of the auditory canal.

4. Pain on pressure of the facial muscles.

5. Increase of temperature of the skin of the left side.

These symptoms developed after exposure to a draught. The author is inclined to believe from this case and others that sensory filaments are to be found as components of the seventh nerve.

J.

The Differential Diagnosis of Vascular and Muscular Tinnitus Aurium

Thos. F. Rumbold (*The Laryngoscope*, July, 1898) contributes a most valuable paper on the above subject in which he tells us that ear-sounds occasioned by disease of the ear are of only two varieties, and these very different in several respects. It is of the utmost importance to be able to differ-

entiate between the two kinds of tinnitus; for a treatment or procedure that would be of great value to a patient suffering from one variety, would be decidedly injurious to one suffering from the other variety.

One variety is caused by the flow of blood through the irregular-calibered blood-vessels of the internal ear, or of those in its neighborhood, producing vibration by the passage of the blood through abnormal vessels. This kind of ear-sounds the author has named *vascular tinnitus aurium*. The other variety is produced by the action of diseased muscles of the middle ear, producing vibrations by a series of alternate contractions and relaxations. This R. has named *muscular tinnitus aurium*.

Ear-sounds that are formed by a series of alternate contractions and relaxations,—i. e., a paralysis agitans of the muscles of the middle ear, giving rise to muscular tinnitus aurium—will cease upon the application of an extrinsic sound to the affected ear or ears, and will remain absent for from five to sixty seconds, or even a much longer time in many cases.

It is the absence of this kind of ear-sounds, thus temporarily driven away by extrinsic sounds that forms the differential diagnosis between the two varieties of *tinnitus aurium*.

To differentiate these forms of *tinnitus* the author uses a Camman's stethoscope armed with a pair of india-rubber bulbs, and an air-tube, all of which are ingeniously arranged. With this arrangement the sound sent to the ears from the apparatus can be easily and instantly controlled and it is simple in its application. The ear-extremities of the stethoscope are inserted in the patient's ear or ears. The noise is made by forcing a small stream of air upon the covered extremity of the stethoscope by means of the rubber bulbs. The covering of the trumpet-extremity is made by a thin sheet of india-rubber. Even a very small, weak stream of air blown on this sheet makes a surprisingly loud but not disagreeable noise. The noise is varied in pitch at will, by approaching and withdrawing the point of the air-tube from the rubber sheet and the volume of sound is varied by varying the force of the air-stream. This extraneous noise will *always* temporarily arrest muscular *tinnitus aurium*; in some cases it will do so in a few seconds.

If it is observed that a *tinnitus* is in one ear only, the tube of the Camman instrument may be taken out of the unaffected ear, so as to throw the differentiating noise into the affected ear alone.

In the case where there are both kinds of *tinnitus* in one ear, the patient will observe

an almost instant abeyance of the muscular variety, and the continuance of the vascular variety.

To form an opinion of the chronicity or tenacity of the ear-sounds, the author times the continuance of the application of the extrinsic noise. If he finds a continuance of the noise for five seconds stops the muscular *tinnitus aurium* he considers the case more favorable, for relief or cure, than one that requires the application of the noise for twenty seconds or longer. The longer the ear-sounds remain away, after being checked, the more favorable is the case for amelioration, even if it can not be cured.

G.

Finer Histological Changes of the Nerve-cells in Tetanus

La Méd. mod. (Vol. IX, p. 79) contributes an article by Chantemesse and Marinesco, on the changes of the cells, observed in guinea-pigs, in experimental tetanus. Some animals were killed speedily—others slowly—by the poison, and in some both toxin and antitoxin were employed. They show that grave alterations were produced in the cells which disappeared if the animals lived long enough. The admixture of antitoxin seemed to counteract the action of the toxin and no appreciable changes were noted in the ganglion-cells. They believe that the immunity acquired is due to a specific power of the nerve-cell, histogenic in character.

J.

Chelidonium Majus in Inoperable Carcinoma

C. C. Hunt (*Jour. of Am. Med. Assn.*, Vol. XXX, No. 23) concludes:

1. Chelidonium majus, injected interstitially into the substance of a carcinomatous growth, tends to its obliteration by necrobiosis.

2. Copious and frequent interstitial injections of the fluid extract are unattended with danger to the patient, if judiciously used.

3. In cancer of the rectum, even at an advanced stage, stenosis may be prevented and the necessity of palliative colotomy obviated.

4. It is a deodorizer of no mean power.

5. There is some warrant for the belief that it has a favorable influence over glandular infiltration and tends to prevent metastasis.

6. It is a hemostatic and antiseptic.

7. It gives the patient hope of ultimate recovery and this tends to mitigate or annul the awful apprehensions of impending dissolution, apprehensions, we may well opine, more appalling than death itself.

SURGERY

GEORGE B. WOOD, M.D.

VINCENT GOMEZ, M.D.

HEBER N. HOOPLE, M.D.

Bier's New Technique for Amputation

Dr. Erwin Payr (*Centralbl. f. Chir.*, Berl., 1898, XIX, 499) describes this method of amputating below the knee. It consists in placing a piece of bone at right angles across the end of the tibia and fibula. The plate of bone which is so utilized is obtained as follows: At a proper distance from the point where the bone is to be amputated a transverse cut is made through the periosteum on the inner surface of the tibia. Two incisions, one on the inner and the other on the outer edge of the tibia, are made from the transverse cut to the amputating point. The bone is now notched on the inner surface beyond the transverse cut, to allow of the application of the saw, which separates longitudinally the internal surface of the tibia, up to the point of amputation, from the rest of the bone. This bone-flap, covered by periosteum, is utilized to cover the ends of the tibia and fibula. But before turning it down a small piece must be taken from its base in order to prevent laceration or rupture of the periosteum. This flap of bone is sutured in place and covered by a large skin and muscle flap taken from the calf of the leg. T.

A Unique Case of Appendicitis

Dr. J. Y. Brown reports the following case (*St. Louis Med. Gaz.*, June, 1898):

A man, aged 42, was suffering great nausea, intense abdominal pain, and great tenderness in right iliac region. *Pulse*, 80; *temp.*, 99°. On examination three days after beginning of attack the abdomen was found slightly tympanitic; there was much tenderness over seat of appendix, but no mass could be made out. Rectal examination was exquisitely painful, and much boggiess could be made out on the right side. Operation; a quart of stinking serum was found free in the pelvis, which being sponged out, a loop of ileum was found bound down tightly by a band-like adhesion. The ileum was dark-colored, but after the constriction had been relieved, the circulation gradually returned, and a resection was not found necessary. From the adhesions present about the cecum it was conclusive that the patient had had frequent attacks of appendicitis. The cecum was tightly bound down by adhesions, and the appendix was found with some difficulty; the latter was densely adherent to the cecum, stric-

tured and gangrenous at tip, and with a perforation about the size of a pea. The appendix, having been freed, was cut out to the head of the cecum; *the opening was stitched up with a double row of sutures.* From beginning to end of the attack the pulse and temperature were nearly normal.

From this case the author makes three deductions: 1, pulse and temperature are of no prognostic value; 2, a patient should undergo operation as soon as a diagnosis of appendicitis is made; 3, the author believes that in the large majority of cases the method of suturing devised by Price of Philadelphia (which was used in this case) is the ideal method. The author prefers it to those of Edebohls and Dawbarn. Fowler and Morris are quoted in support of the opinions expressed. G.

An Improved Method of Treating Fractured Clavicle

An appliance is offered by J. W. Henson (*Surg. Med. Jour.*, Vol. XXXVIII, No. 26, p. 453) as an improvement upon the present methods of securing position and immobility in a fractured clavicle. In the place of the adhesive strip, as in Sayre's method, the writer substitutes the following arrangement: Out of denim, unbleached jeans, or other stout cloth, a shoulder-cap, with two extensions or tails, one opposite the other, should be made for the sound shoulder; when held in the hand it bears a crude resemblance to a truncated dunce-cap. It must be so made as to fit the whole shoulder snugly and upper part of the chest just below the axilla; an armhole is, therefore, necessary. The posterior tail is directed across the back along a line drawn from the shoulder supporting the cap, obliquely downward toward the opposite elbow, reaching a little beyond the middle line. The anterior tail should have the same course across the front of the chest, reaching as far as the opposite nipple, and its end should vary in width from one and one-half to two and one-half inches, according to the size of the patient. Upon its under surface there is to be made a pocket, reaching from near its end, upward and outward quite to the top of the shoulder and just wide enough to accommodate the patient's hand. When tension is made upon both extensions at the same time on the line of their direction, the cap should bear with equal pressure upon the shoulder and chest. Attach a buckle to the end of each extension. Next, from the same stout cloth, cut a narrow oblong piece, sufficiently wide to accommodate the elbow and long enough to reach from the middle of the arm to the middle of the

forearm when extended. To each end of this, which we will call an elbow-piece, attach a tape of a width to match the buckles mentioned. As to the method of application, the horizontal strip of adhesive plaster is to be applied according to Sayre. The shoulder-cap is to be fitted next upon the sound shoulder. Into the pocket under its front extension introduce the hand of the injured limb, after carrying the forearm up across the front of the chest. The elbow-piece is next applied to the already flexed elbow, and its ends fastened respectively to the anterior and posterior extensions of the shoulder-cap. A hole should be made in the elbow piece one and one-half or two inches forward of its center for the reception of the olecranon process. By properly adjusting the connections support will with certainty be obtained, and furthermore, maintained with comfort. The text is illustrated by two excellent cuts. L.

Hemorrhagic Ulcer of the Stomach and Its Surgical Treatment

Tavariaud (*Thèse de Paris*, Feb., 1898) is epitomized in *Rev. de Thér. méd-chir.* (No. 14, July 15, 1898, pp. 484-486). Hemorrhages exist in four-fifths of cases of ulcer of stomach, according to Lebert; and when this is the chief symptom, it should be called hemorrhagic ulcer. Copious hemorrhage, causing death in a few minutes, occurs in 5 per cent. of these cases according to Brinton. When the hemorrhage is of medium intensity (500 gme., or about a pint) it is not commonly fatal unless it recurs. When hemorrhages are small, but recur persistently, they produce chronic anemia. These three forms—the fulminating, fatal; the acute, sometimes fatal from repeated hemorrhages, but more often ending in recovery; and the chronic, ending in a cachexia—have as common cause of their behavior, according to the writer, the coagulation of blood in the ulcerated blood-vessel.

Hemorrhages are not limited to the round ulcer of Cruveilhier, but are also seen in alcoholic gastritis, in hemorrhagic erosions of anemia, in athrepsia, in pulmonary tuberculosis, in mitral affections, and in Dieulafoy's simple ulceration. The mean mortality is 5 per cent.

Leube and Mikulicz, before the Congress of German Surgeons in 1897, made a clean distinction between profuse hemorrhages rapidly fatal and oft-repeated small hemorrhages entailing anemia and impoverishment of the patient. In the former they are doubtful about the advisability of operation, because the ulcer is not always found, the case is rapidly fatal, and when not so it gets well under medical treatment with a

mortality of 1 per cent. (Leube). But in the latter cases, which are always rebellions to medical treatment, they decidedly favor surgical intervention. Dieulafoy operates in all cases; Hayem in none.

As to cases of acute hemorrhage, it is certain that they for the most part respond to medical treatment; the post-hemorrhagic anemia is rapidly recovered from, and frequently the recovery is followed by lasting repair of the ulcer.

Surgical interference in these cases is very serious, and the mortality as high as 6 per cent., with frequent failure to find the ulcer. When cauterization has been done, hemorrhage has not recurred. In most cases the operation is too late, and death is due to collapse. The factor which determines fatality or radical cure is, according to Dieulafoy, the amount of blood vomited at once. When it is 50 to 200 gm. (2 to 6 oz.) it is favorable; when half a liter to a liter (one to two pints), especially if recurring within twenty-four hours, it is probably fatal. The quantity rejected at one time depends less on the size of the blood-vessel involved than on the formation of the obturating clot. The previous state of health of patient also affects his ability to recover from the hemorrhage. Before commencing an operation, the patient must have an absolute diet (milk), the organism must be supplied with water, by rectum or by hypodermic administration of artificial serum, and oxygen must be inhaled. The only absolute contraindication is extreme hemorrhagic anemia. In fifteen cases operated on for acute hemorrhage, twice death was ushered in by peritonitis, twice the hemorrhage recurred, and in the other six deaths collapse occurred. Great difficulty was experienced in finding the ulcers, which were either small or hidden. The hemostatic methods under operation are of two kinds: (a) Excision, cauterization, scraping and suture, ligature in the wound of the affected artery; (b) ligature at a distance from the lesion.

Excision of an ulcer in the anterior wall is easy if there is no adhesion to the liver; so also of the posterior surface if not perforating or adherent. At the pylorus partial resection may be done, or total resection may be necessary, which latter is dangerous, especially when the ulcer digs into the pancreas. Cauterization is a good procedure to arrest a moderate hemorrhage; best employed in small arterioles in deep ulcers into the pancreas, and where there are adhesions—never in a wall of stomach unattached.

Scraping and ligature are applicable in many cases, especially where the ulcer is

shallow. Ligature of the mucous membrane so as to embrace the bleeding artery is the best procedure when the hemorrhagic erosion is quite limited, and the artery is small. Roux, of Lausanne, employed the ligature at a distance from the lesion in two cases with success. It is suitable for weakened patients, and for those in whom the bleeding has made them unable to endure excision.

In chronic hemorrhages, small but persistent, medical treatment is inefficacious, and operation is indicated, especially if there is gastrectasis. Doyen and Carle recommend gastroenterostomy, and Mikulicz pyloroplasty to suppress these hemorrhages and heal the ulcer. When the ulcer is situated on the anterior curvature, the operation of choice ought to be resection; in the pylorus or duodenum, gastroenterostomy. Mikulicz's mortality with pyloroplasty is 13.2 per cent., while gastroenterostomy gives 16.2 per cent., under the same conditions. The latter is preferred in France, because of the frequent adhesions, which might interfere with pyloroplasty, when the ulcer is around the pylorus.

Resection of the pylorus has a mortality of 27.8 per cent. (Mikulicz). It will be indicated, however, if the ulcer is suspected of being cancerous. H.

Operative Treatment of Traumatic Jacksonian Epilepsy

Prof. Heinrich Braun (*Deut. Zeit. f. Chir.*, 1898, XLVIII, pp. 223-306) publishes an exhaustive article on the treatment of Jacksonian epilepsy. It consists of a recital of a large number of cases collected both from existing literature and from the author's personal observations, and the discussions are the ideas of the various leading surgeons of the day, and the results of the writer's own thoughts on the cases observed.

In closing, the results of his observations are summed up as follows: As yet there have not been enough detailed and exact reports of cases which have undergone operative procedures for the cure of traumatic Jacksonian epilepsy, published to enable us to answer the question, whether in order to effect a cure it is necessary to excise the motor center. At present we are unable to give any definite judgment on this matter, and must wait for further experiences. On the other hand, the published observations of the last few years show that operations on the skull, such as removal of splinters of bone, may lead to a distinct improvement, or even to a cure. From these results was deduced the rule that in cases of circumscribed injury to the

skull, where the injury is over the motor centers of the brain, the surgeon should trephine at the place of injury. After having tried this operation without curing the epilepsy, when no pathological change can be detected, one is justified in proceeding to locate the center affected with electric stimulus, and then to remove it in sufficient surface dimension, and to the depth of about 5 mm. It is comparatively difficult to locate the portion to be excised if there is extensive injury to the skull, or if there is an exceptionally deep depression in the skull, or a very tender spot which does not correspond with the anatomical position of the center affected. In the first case, the skull should be opened over the center, corresponding to the parts involved in the epilepsy. In the last two cases the trephine should first be applied over the deepest depression, or over the point of greatest tenderness if no good results follow, the skull should be opened over the center as ascertained anatomically, and finally, as a last resort, the center, which has been determined by electrical stimulus, should be removed.

T.

The Present Status of Rectal Surgery

J. M. Mathews (*Quar. Jour. Rect. Dis.*, Vol V, No. 2, 1898) believes that every disease or pathological condition in the rectum can be detected with the finger, except one—internal hemorrhoids in a quiescent state. The author emphasizes this statement in contradiction to the authorities who direct that a digital examination be made in order to detect piles, and that the speculum be used in detecting any special or all manner of diseases in the rectum.

Internal piles must be removed by an operation, for no local application, as ointments, etc., ever cured an internal pile. The operation may be performed in the inflamed state, for thereby the inflammatory process is stopped and the inflammatory deposits removed at the same time the patient is cured of his disease.

In the experience of the author, ligature is the safest, easiest of execution, quickest to cure, and most radical operation for internal piles. Next to this plan is the clamp and cautery. The injection of acids, etc., into the pile-tumor is dangerous, unsurgical, and not attended by radical results.

In times past it would have been thought both unwise and unsurgical to have attempted the removal of the entire rectum for cancerous or other disease. To-day it is often practised.

No one denies the anatomical and surgical fact that the rectum can be removed even in its entirety. In this day of per-

forming great surgical feats, there is such a thing as over-stepping the bounds of all reason in order to show great dexterity. It is a principle in surgery that unless all tissues involved in the cancerous disease can be removed, an operation is useless. It is a well-recognized fact that the rectum is contiguous to a large distribution of glands and lymphatics. Cancer situated above and not involving the sphincter muscle is often an insidious disease. When the mass has so far extended as to embrace the whole rectum, it is safe to infer that the infiltration-process has so extended that it has embraced structures which cannot be removed; hence, to resect simply the mass in sight would avail nothing. It would be much better to leave such a patient to the tender mercy of an opiate than to further wreck life by a fruitless major surgical operation. If, on the contrary, the growth can be circumscribed, and the assurance given that *all* diseased structures can be removed, then resection, or rather extirpation, should be advised. S.

Operative Interference in Gastric Ulcer

Dr. Heydenreich gives the following indications for operative interference in ulcer of the stomach and duodenum (*Brit. Med. Jour.*, III, 20, 1898):

1. In perforation, it is *absolutely* necessary as early as possible. Since 1894 the mortality after operation has fallen to 52.94 per cent. Without operation the condition is almost necessarily fatal.

2. For stricture of the pylorus. In this condition it is hard to distinguish obstruction from swelling of the tissues around the ulcer or from pyloric spasm from true fibrous stricture. For the latter there are three possible operations: (a) Resection of the pylorus; (b) gastro-enterostomy; (c) pyloroplasty. Of these the first is the most dangerous, and has no advantages over the others, unless they happen to be not applicable, as when the ulcer extends to the pylorus, or the pylorus is adherent, and its walls have lost their softness. When there is a choice between second and third methods, Mikulicz prefers pyloroplasty.

3. Operation may be required for adhesions or abscesses in connection with the ulcer. These are mostly very hard to diagnose, but it must be remembered that in some cases of persistent pain exploratory laparotomy is justified.

4. For hematemesis. Since sudden death is the exception, and many cases recover with medical treatment, the propriety of operation is still doubtful. Hartmann's twelve cases gave eight deaths and four re-

coveries. The author believes the chief point to be the quantity of blood lost. For violent hemorrhage laparotomy has almost always failed. Sometimes the infiltration of the surrounding tissues has rendered excision of the ulcer or ligaturing the bleeding vessel impossible. Often the bleeding comes from a branch of the splenic artery, whose territory is very difficult to reach, and sometimes the ulcer has been too small to be found. For slighter hemorrhages, which become dangerous through repetition, operation may be successful. Usually pyloroplasty or more often gastro-enterostomy has been performed in such cases with a view to procure rest of the stomach, and consequently of the ulcer and its healing.

5. This last consideration has led some to propose gastro-enterostomy for cases of uncomplicated gastric ulcer. The general death-rate for all cases of gastric ulcer is 25 to 30 per cent., for gastro-enterostomy only 16.2 per cent., and therefore the operation has less danger than the disease. Another advantage of not waiting for complications is that the patient is in better health. At any rate cases that do not improve with medical treatment in a reasonable time should be treated surgically. R.

Embolism of the Retinal Artery and Its Branches

John Dunn (*N. C. Med. Jour.*, July 5, 1898) divides the arterial supply of the retina into: 1, the central stem from its point of origin at the ophthalmic artery to its bifurcation in the region of the optic papilla; 2, the larger branches as they are to be seen in the inner layers of the retina; and 3, the minute branches, offshoots either invisible or to be seen only under most careful focusing with the ophthalmoscopic lens. Emboli may lodge in any of these divisions. The retinal is an end artery—it has no anastomoses; therefore complete embolization means the shutting off of the arterial supply, either of the whole retina or of the part supplied by the embolized branch. In embolism of the central stem there is usually sudden total blindness. Shortly after a faint edema will be found in the central part of the fundus, which in a few days spreads over nearly the whole background of the eye; after a few hours a round, cherry-red spot may be seen over the whole region of the macula, in strong contrast with the surrounding cloudiness; this is not a hemorrhage, but results from the fact that the retina at the macula is thinner than elsewhere, and has no blood-vessels. As a consequence the edema of its tissues is less, and

thus the color of the choroid appears abnormally red by contrast with the cloudiness of the surrounding edematous retina. Closure of the central artery by an embolus is followed by atrophy of the nerve about the papilla and retinal hemorrhage, the latter being due to minute particles of the original embolus breaking off and being carried into the very small arteries, where they cause rupture of their walls. Thus there are found in the retina isolated hemorrhagic spots, in different stages of absorption, the amount of visible retinal degeneration relative to the size of the hemorrhagic areas being large, which shows that the disturbance of the nutrition in the areas had been greater than results from simple hemorrhagic extravasation. Besides the picture presented by the fundus, a history of sudden loss of vision, the presence of a heart-lesion, vertigo, possibly numbness or tingling in the extremities, loss of muscular control, and aphasia may be present. Atheroma, aneurism, Bright's disease, some fevers, and pregnancy may give rise to embolism in the retinal artery. Often the source cannot be found. G.

Operations on the Stomach

Carle and Fontino (*Il Policlinico*, March 15, 1898; ref. in *Brit. Med. Jour.*, May 1, 1898) publish a first instalment of considerations upon 102 operations upon the stomach performed by them during the last few years. In the present number they deal with eighty-three operations upon the pylorus; of these forty-four were cases of non-malignant pyloric stenosis. The authors deal at some length with the bad effects resulting from prolonged retention of food in the stomach, and point out that this of itself may be a cause of hyperchloridria. The few cases of pyloric stricture where hyperchlorhydria or anachlorhydria was present could be explained in other ways. Excess of acid does not hinder fermentation, but may increase it by delaying the digestion of amylaceous food. Of the forty-four non-malignant strictures, thirty were cicatricial, nine spasmodic, three due to gastric atony, and two to stricture of the duodenum. In four cases cicatricial contraction of the pylorus followed very soon after the swallowing of corrosive acids. The position of the cicatrix here is explained by the fact that when the stomach is empty and retracted, the pylorus is the lowest point, the lesser curvature being nearly vertical. In eight cases where there were unmistakable signs of previous ulcer hematemeses had occurred only three times. There was evidence of peri-pyloritis

in nineteen out of the forty-four cases. This strengthens the author's view that spasm of the pylorus is due to some local alteration of the mucous membrane—for example, anal fissure. As regards operative treatment, twenty-seven were treated with gastro-enterostomy, three by digital divulsion, and fourteen by pyloroplasty. There is a full discussion as to the relative value of anterior or posterior gastro-enterostomy, with a decided opinion in favor of the latter method. G.

Electrolysis in Urethritis Chronica Glandularis

Dr. Mundorf says that notwithstanding the unfavorable results in a few cases, electrolysis is a valuable method in the treatment of the glandular form of chronic urethritis. He gives the report of seventeen cases, and reaches the following conclusions (*Med. Rec.*, Aug. 20, 1898):

1. In all cases of suspected urethral disease (excluding cases of acute urethritis) a careful urethroscopic examination should precede treatment.
2. As a rule, all forms of chronic urethritis can be cured by regular dilatations and urethral injections of a silver-nitrate solution.
3. Electrolysis is indicated only in the glandular form of chronic urethritis.
4. Electrolysis will cure the larger proportion of chronic glandular urethritis.
5. If electrolysis fails, the dilatation treatment is indicated.
6. In some cases of chronic urethritis, dilatation treatment preceding electrolysis will prove beneficial.
7. In those cases in which firm and dense cicatrices have developed in consequence of electrolysis, regular dilatations should be proceeded with.
8. During treatment endoscopic examinations of the urethra should be regularly made, controlling thereby, under the direct guidance of the eye, the progress of the disease, and according to the conditions found, modifying the treatment. R.

Treatment of Appendicitis

Dr. Joseph Eastman thus summarizes his paper on the above subject (*Med. and Surg. Monitor*, June, 1898):

1. The unqualified dictum, "Operate as soon as the diagnosis of appendicitis is made," is unsound, unsafe, and often pernicious.
2. Appendicitis is a disease demanding surgical treatment at the hands of the expert in abdominal work for the reasons: (a) In no abdominal operation is so thorough

mastery of the principles and technique of asepsis necessary. (b) The operator with an experience of hundreds of abdominal sections can give the patient a better chance of life than one who only occasionally opens an abdomen. This need not deter any surgeon or physician from operating in an emergency.

3. After an attack of appendicitis the patient is carrying an open communication between the intestinal lumen and the peritoneal cavity, which, if temporarily closed, may open at any time by absorption of the exudate or adhesions which have temporarily closed the leaking sinus.

4. The case cured (?) by medicine should during its convalescence from the cure (?) be submitted to a surgical cure in fact, not in fancy, for the reason that the operation in the interval between attacks is less dangerous than medical cures.

5. All cases in which an appendical abscess has been opened come under the same head as medical cures (?) and demand surgical cure in fact. There should be no wait for a second explosion of dynamite.

6. Who would think of living in a house with a burst, leaking sewer, sending out microbic infection, fungous granulations, or accumulations to hermetically seal up the opening? It would be contrary to all the best principles of correct science, of good surgery, and of sound sense.

7. "Surgery should be as the handmaid of medicine, not supplanting her mistress, nor yet usurping her rights, but rather assisting her to maintain them." R.

A New Device for Performing Craniotomy

Dr. A. Codivilla (*Centralbl. f. Chir.*, 1898, XXV, 429) describes a new instrument, which he claims facilitates the opening of the skull. It consists of a handle at one end of which is attached a screw, which is fastened firmly in the bone at the middle point of the flap. Pivoted on this screw is a slotted bar, with a slide to hold the cutting part of the instrument, so that circles, up to 6 cm. radius, may be described on the skull. The handle proper is a continuation of the bar in such a direction as to give the best possible leverage and freedom of motion when the knife is rotating on the fixation-screw. T.

Surgical Interference in Cerebral Injuries without External Lesions

The purpose of E. Laplace (*Phila. Med. Jour.*, Vol. I, No. 18, p. 795) is to draw attention to the frequency of serious damage being done to the intracranial tissues with-

out any very apparent evidence of it at the time of, or immediately following, the injury. Fracture of the inner table of the skull, following traumatism, without any direct external evidence of it, occurs mainly in the region of the meningeal artery, so that hemorrhage may develop some time after the accident, no trace of which exists immediately after the injury. Hemorrhage may also result from rupture of a sinus. Owing to the swelling and disseminated compression resulting from contusion of the brain, which necessarily accompanied any violent injury of the skull, the writer regards it as a wise practice to consider all cases of injury to the skull as dangerous until distinctly proved to be the contrary. In support of these views are presented four cases operated upon and showing the necessity of prompt intervention in traumatisms of the head. L.

Successful Operation on Case of Inguinal Hernia with Perforation of Appendix into the Hernial Sac

La Sem. méd. (No. 36, p. 296, 1898) reports from *Deutsch. Zeitsch. f. Chir.* (Vol. XLVII, pp. 2-3) this singular case of hernial appendicitis in a man of 41 years. He had an inguinal hernia twenty-six years when he sought hospital aid for a gonorrheic epididymitis. Above the epididymitis was clearly perceived a considerable swelling of the spermatic cord as far as the inguinal canal. The hernia was not made out. After a few weeks the truss was worn again, when a new swelling of the spermatic cord was immediately caused, accompanied by fever and severe pain. Tumefaction as thick as two fingers extended from the inguinal ring to the testicle. The operation was undertaken under the suspicion that the tumor was tuberculous, but it was found to be the appendix, with its whole length imprisoned in the hernial sac, having two perforations at the level of the external ring, situated opposite to each other. The appendix was removed and treated in the usual manner, after which contraction was done because of adhesions with the cord. Patient recovered in a few weeks.

H. Gross thus explains the occurrence. The gonorrheal inflammation of the spermatic cord was communicated to the hernial sac and thence to the appendix, which became fixed outside of the abdominal cavity. The pressure of the truss then caused rupture of the inflamed appendix at opposite points. No peritoneal symptoms were present, because the appendicitis developed locally outside the peritoneal cavity. H.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Vaginal Cystotomy for Removal of Stone

Dr. P. H. Pedersen (*Med. Age*, Vol. XVI, No. 10, 1898) recommends the following procedures:

The patient is put in the lithotomy position with an assistant on either side. The vulva and vagina are thoroughly scrubbed and disinfected according to general rules; the bladder is irrigated with a 1:5000 solution of potassium permanganate.

A short posterior retractor is placed in the vagina and held in position by one of the assistants, while the other places a male sound in the bladder and directs it downward, putting the anterior wall on the stretch, and on this sound the incision is made through the median line of the anterior vaginal wall large enough to pass the index-finger through. The stone or stones are located, their size noted, and the incision enlarged to such an extent that they will pass through without causing any tear, as a clear cut will heal up only too readily, whereas a tear, as a rule, will leave a permanent vesical vaginal fistula.

An ordinary pair of gynecological dressing forceps are passed through the incision guided by the index-finger, the stone is grasped by these and pulled out; the finger next explores the bladder, and if any other calculi are found they are treated in the same way. A free capillary hemorrhage takes place from the mucous membrane of the bladder on account of its rich blood-supply; this is, however, controlled with a very hot irrigation of some antiseptic solution. After the hemorrhage has been checked the fistula is stitched up with interrupted catgut-sutures, leaving a small opening near the entrance to the vagina, in which a soft-rubber catheter is left to secure free drainage of the bladder; the wound is next dressed with iodoform gauze and the patient placed in bed. Twice a day for a few days the bladder is irrigated through the catheter left in the fistula with a 1:5000 solution of potassium permanganate, taking care not to overdistend the bladder and cause undue traction upon the stitches in the upper part of the fistulous opening. The catheter is removed in a few days, and the opening in which it was left will heal up by itself without any trouble. The first case seen by the author was a patient of Professor Howitz, in Copenhagen. She was an elderly and well-developed lady. A

cystoscopic examination was made and the stone was found adherent to the posterior wall of the bladder. In November, 1893, Professor Howitz performed a cystotomy according to the method described above, and the stone was located with the index-finger; it was found to be hour-glass-shaped, and one of the lobes was buried under the mucous membrane of the bladder. The stone was about one and one-half inches in length and each lobe about one-half inch in diameter. The incision was closed and the patient made a rapid, uncomplicated recovery. The author treated two cases since with the same favorable results. S.

Appendicitis and the Puerperal State

Pinard, before the Paris Academy of Medicine (*Sem. m d.*, No. 16, March 23, 1898, p. 125) reported the following: A woman, pregnant five and a half months, was attacked suddenly on the street with a violent pain in the hollow of the epigastrium, radiating to the right iliac fossa. She had had no previous morbid symptom, and there had been no traumatism. She had suffered from nausea all that night, but did no vomiting until the next day. The vomitus was first of food, then of bile. Without fever, the condition grew worse until, on the fourth day, she was examined at the Baudelocque clinic and found to present a tumor corresponding to the gravid uterus, which, however, did not mask MacBurney's point of pain. Neck of uterus and the cul-de-sac were normal. Temperature 37  C. (98.6  F.), pulse 120, pinched facies, greenish vomit, and pain led to decision for surgical interference. Both ovaries and tubes were found surrounded by fetid pus. That night the fetus was expelled and promptly died, as also did the patient. The autopsy showed a gangrenous appendix. A culture of blood taken from the umbilical cord of the child furnished pure cultures of coli bacilli.

Mund  and Abraham and other gynecologists in America have first drawn attention to this association of appendicitis with the puerperal state. The author has collected forty-five cases thus complicated, in thirty of which the diagnosis has been confirmed either at the time of operation or in the autopsy. Appendicitis appears to "lie in wait" for pregnancy, and to attack such patient at any stage in her pregnant condition. Hence the relative frequency of its occurrence and suitable methods of anticipating it become very important. Appendicitis occurring in these cases interrupts pregnancy. What up to the present surprised accoucheurs was that the child died promptly after birth in these cases; but the

fact is explained by the infection found in the blood of the umbilical cord. It is only when the abscess is limited that mother and child both survive. None of the types described by Dieulafoy is found in these cases. Treatment is the same as in uncomplicated cases of appendicitis—prompt recourse to surgical procedure without preparatory evacuation of uterus. As a precautionary measure the surgical interference should be instituted on first symptoms in those who expect to become pregnant.

Dieulafoy signified his interest in the question as to how far the puerperal state influenced the virulence of the coli bacillus and the toxicity of its products. He cited experiments in making cultures of the coli bacilli from above and below the constriction in cases of closed appendix, with the result that the virulence and toxicity were found to be limited to the cultures made from below the constriction. H.

Teratology—Report of a Case

Etta Charles (*Md. Med. Jour.*, June, 1898) reports the case of a female infant weighing eight pounds at birth. The body was seemingly well-formed, with the exception of a large sac or pouch in the post-cervical region, beginning about the region of the trapezius and the occipito-frontalis and extending to about the sixth or seventh cervical vertebra. This was covered by a long growth of hair. The margins of both auricles were covered by a long fringe of hair and the face had a senile expression. Upon closer inspection the chin seemed to rest upon the clavicle as though there were absence of one or more cervical vertebra. The left nipple was one inch lower than the right. The tumor was lobated, the skin clinging close to the contents; pressure on the pendant portion caused the child to cry, and, while crying the tumor became more tense. Percussion over the anterior fontanelle gave pressure over the tumor. Five weeks later the tumor was again seen; it was then several times larger than at birth, measuring ten inches vertically, five inches laterally, and fourteen inches in circumference. Held in a strong light the tumor looked perfectly clear. The aspirator was several times employed, the fluid reforming quickly after the operation; death occurred at the fourth month.

At the autopsy the tumor was incised and about ten ounces of fluid were evacuated. "A tumor of brain-substance about the size of a small orange presented itself. The pia and arachnoid of the accessory brain were congested with blood; the cerebellum and cerebrum were well marked. This little brain was grafted upon the cord near the

medulla." The atlas, axis, and the spinous processes and laminae of the third and fourth cervical vertebrae were absent. The foramen magnum was unusually large. The condyles seemed to possess more the character of the inferior articulating processes. "The bone-cells had piled up on either side transverse processes from the condyles down to the fourth or fifth cervical, forming a bony bed for the little brain to rest in." The opening from the foramen magnum to the first arch was three inches. The external surface of the occiput at the crest was concave, the bone extending downward and blending with the bony formation of the transverse processes. The opening into the canal was as large as a silver dollar. "The brain proper was normal."

[The quoted statements are somewhat vague, giving the impression that two brains were the normal brain and a complete accessory brain (i. e., an accessory brain made up of a cerebrum and a cerebellum); such a state of things would be impossible according to our present knowledge of embryonic development.] G.

Hour-glass Contraction of the Uterus

Elmer Sothoron (*Virg. Med. Semi-Month.*, Vol. II, No. 22, p. 665) believes that the majority of cases of hour-glass contraction are caused by either one of the following conditions: 1. An adherent placenta acting as an obstacle to contraction over the placental site, while the rest of the organ assumes its physiological function. 2. The premature rupture of the membranes and the loss of the entire amount of amniotic fluid, either spontaneously or gradually, allowing the uterus to retract at a certain place, and conform itself to the surface of the fetus. After the expulsion of the child, the retracted portion of the uterus being free, assumes its physiological duty, thereby forming this annoying central stricture, which is either the internal os or some portion of the walls of the uterus. The fact that artificial irritation of both the external and internal os is nearly always produced by the different methods of inducing premature labor, which is rarely attended with hour-glass contraction, explodes the theory of irritation acting as a cause, in the writer's estimation. The treatment should have reference to the existence of a partial or completely adherent placenta, contained in a cavity whose walls are poorly contracted, thereby producing hemorrhage; or, a retained non-adherent placenta contained in the cavity whose walls are firmly contracted and with little or no hemorrhage. The delivery of the placenta should be regulated by the condition of the uterus itself. L.

have shown that hot packings alone do not effect, even in the slightest degree, the satisfactory results yielded by ichthyol packings. In chronic acute articular rheumatism the treatment must be carried out for an extended period in order to obtain lasting result. These ichthyol packings, therefore, fully replace the sulphur- and mud-baths heretofore recommended. Many invalids, unable to visit any health-resort were cured by the application of the hot ichthyol packings every evening on return from the daily occupation. The treatment is also of great benefit in true gout (arthritis deformans). F.

Pural

A new disinfectant called Pural has been introduced by J. Heuman, of Berlin (*Pharm. Post*, XXXI, p. 282). It is said to consist of powdered charcoal impregnated with a mixture of carbolic acid, menthol, and benzoic acid, compressed into cylindrical form. One of the cylinders is ignited at an ordinary flame, and allowed to slowly burn away. The disagreeable odors of the sick-room are said to be entirely removed or neutralized by the use of two or three cylinders per day. Children suffering from whooping-cough, it is claimed, are also greatly benefited by it, as much so as by the evaporation of carbolic-acid solutions. F.

Dioscorine

Considering its importance, the toxic action of "yams" has, according to the (*Practitioner*, Vol. LXI, No. 1, 1898), not received the attention which it deserves. In the tropics these, the tubercles of certain dioscoriaceae plants, are largely used as a staple article of diet. After cooking, however, they appear to be innocuous. One of the most poisonous species is "*Dioscorea hirsuta*" known in Java under the name of gadocug. From this, in 1894, Boorsma isolated an impure alkaloid, which has recently been obtained pure and investigated pharmacologically by Pflugge and Schutte (*Arch. Internat. de Pharmacodynamie*, IV, p. 39). The alkaloid is a crystalline body, melting at 43.5° C., and is a monacid base. Its formula is $C_{18}H_{19}NO_2$. It gives definite color-reactions with the usual reagents, and these, together with the melting-point, the crystalline form of the picrate, etc., can be used in its identification in toxicological cases.

Pharmacologically it belongs to the picrotoxin group of poisons. After subcutaneous administration it produces violent convulsions in all the animals (perch,

frogs, mice, guinea-pigs, and rabbits) investigated, followed, after a variable time, by paralysis. It has no effect on the peripheral nerve terminations or muscles, and is without influence on bacteria and the coloring matter of the blood. It is a less active poison than prerotoin, especially on guinea-pigs. According to the same authors, it contains besides prerotoin, cicutoxin from *Cicuta virosa* L., coriamyrtin, a glucoside of *Coriaria myrtifolia* L., digitaliresin, a decomposition product from digitoxin, phytolaccatoxin obtained from *Phytolacca acinosa* and *P. decandra*, sikicual from false star-anise, oenanthotoxin, from the root of *Oenanthe crocata*, isonitroso-auslacetone, a synthesized product.

The treatment of dioscorine poisoning suggested is similar to that of strychnine or picrotoxin. Wash out the stomach and administer chloral hydrate and potassium bromide, and during the tetanic paroxysms induce chloroform anesthesia. S.

Protargol, a Specific Against Conjunctival Blepharitis

Protargol is a combination of silver and protein which Dr. Danier (*Ophthalm. Klinik*, No. 7, 1898) confidently hopes will be demonstrated by further investigation to be a specific in all forms of inflammation of the conjunctiva and the cornea with secretion, and to be curative in inflammation of the lachrymal canal. Nitrate of silver and other caustics are superficial in their action, are painful, are apt to produce eschars and pseudo-membranes, and have other familiar disadvantages. Protargol is practically painless, even in concentrated solutions applied to the cornea (Dr. Danier no longer precedes its use by the application of a local anesthetic); it does not coagulate albumen; the salt of the normal secretions brings about no reaction; it produces no irritation in the mucous membranes; it impregnates the epithelial cells, and its bactericidal effects penetrate to the deepest tissues, even to the membrane of Descemet. No new remedy has given such favorable results as this drug. Severe blepharitis, presenting all the evidences of infection, which have come under the author's observation in the first, second, or third day of the disease, have been cured by the use of protargol in one or two days. For inflammations further advanced protargol was still appropriate, and rapidly curative. From 5 per cent. for mild cases to 50 per cent. for the virulent forms was used. In cases of severe trachoma pledgets of cotton impregnated with the pure drug have been in-

serted between the lids, and have been kept there for fifteen minutes at a time without the production of eschars or other outward results. It is an absolutely harmless remedy, which may be used in large doses without fear of complications. Protargol is soluble in water in any proportion, but some time is necessary for complete solution. It should be dissolved slowly in distilled water, which is to be stirred from time to time with a glass rod. An untainted solution need not be filtered. A 5-per-cent. solution has the color of light beer, and it froths with stirring, like a solution of the white of egg. With more concentration the solution becomes thicker, darker, and more syrupy. A 50-per-cent. solution is of the consistency and color of balsam of Peru. For ordinary use 5 per cent. is appropriate. The patient may take this home and may have a drop inserted two to four times a day, or the physician may touch the membrane. Because of the harmlessness of concentrated solutions, the author makes applications of from 20-per-cent. to 50-per-cent. solutions, which are hardly more painful than the weaker ones. A brush, only the end of which imbibes the drug, is carefully drawn across the everted membrane. This is done every one or two days, and repeated according to the severity of the disease; in the meantime one or two drops of a 5-per-cent. solution may be dropped into the eye by the patient. For catarrhal conjunctivitis applications of 20 per cent. are especially appropriate, even the most intense inflammatory appearances being no contraindication; on the contrary, the more violent the disease the stronger may we make the solution. For the treatment of blennorrhea cauterizations with a 20-per-cent. solution twice a day are employed; and if this does not soon produce results a 50-per-cent. solution is used, which is more appropriate to severe or chronic forms; so long as there is much purulent secretion, there should be cauterizations twice a day. When the secretions abate, there may be more time between the applications. Often the secretions stop after a short time, and then the applications may be made less frequently and in reduced strength, although they are quite harmless. After the discharge has completely stopped, the 50-per-cent. solution may be applied daily for several days longer.

Protargol gave the best results in deep and extensive ulcers of the cornea, without in the least aggravating the condition. Where there are pseudomembranes protargol is not only harmless, but has often brought about a disappearance. Here the membrane is touched, but in the beginning more

cautiously than ordinarily. The author has not had the opportunity to test the action of protargol upon diphtheria of the conjunctiva. The author cannot as yet speak definitely concerning the effects of the drug in granular conjunctivitis; but here protargol seems to be similar in its action to the nitrate of silver stick, possibly in these cases argentanin may supersede protargol. For inflammation of the tear-duct, protargol is better than any other remedy known at present, being sure, quick, and painless. A 10-per cent. solution is injected. Concerning the prophylaxis of blennorrhea, a 10- or 15-per-cent. solution may be substituted for nitrate of silver as used in Credé's method. The protargol produces no irritation.

Treatment of Carbuncle

Vratch (No. 50, 1897) is credited by *Rev. de Thér. méd-chir.* (No. 14, 1898, p. 481) with the following by Lavroff. For several years he has treated carbuncle with the following potion:

Carbolic Acid Crystals.....	0.74 ctg. (116 grn.)
Alcohol	4 to 8 gme. (1 dr. to 2 dr.)
Distilled Water...	210 gme. (6 oz.)
Mint Julep.....	30 gme. (1 oz.)
Two tablespoonfuls a day.	

To this constitutional treatment the author adds local applications of compresses wet in sublimate and carbolic-acid solutions. Later, when temperature becomes normal (two to three days) the compresses are replaced by a 3-per-cent. unguent of iodoform or naphthalin.

The results have been so favorable that the author regards the action of carbolic acid as specific as quinine and salicylate of soda. The draught is not nauseating, and it is well borne. H.

Alterations of Taste and Smell in Tabes

Klippel has made a study of the various alterations in the senses of smell and taste as they occur in tabes dorsalis (*Brit. Med. Jour.*, No. 1960, p. 13). Contrary to the general idea that these symptoms are rare, the author finds that they are of common occurrence in cases of this disease, and may manifest themselves at a very early date; in regard to this they correspond to the other sensory symptoms, such as numbness, paresthesia, and pains. At the same time the author has noticed the late occurrence of these symptoms in several cases. In these circumstances anosmia and agusia are observed, and as by this time the patient has, as a rule, many other symptoms to absorb his attention, complete loss of smell may go unnoticed. Both these

symptoms may appear suddenly and in association with bulbar symptoms. In other instances smell and taste merely show perversion and in an intermittent form, thus resembling crises. There may be for a day or so at a time peculiar earthy, metallic, or bitter taste sensations appearing independently of meals, and lasting for about ten minutes or a quarter of an hour. In the same manner patients may complain of sour smells and odors of stale fish, vomited matter, etc. F.

Argonin vs. Boric Acid in Acute Otitis Media

Drs. Gray and Thompson (*Tex. Cour.-Rec. of Med.*, July, 1898) state the advantages of argonin over boric acid in acute middle-ear catarrhs to be as follows:

1. Argonin solution is highly antiseptic; boric acid, if at all, very slightly so.
2. Argonin in solution can be forced through a small perforation in the drumhead, thus reaching every part of the tympanum and Eustachian tube. Boric acid lies inactive in the external auditory canal.
3. Argonin can be used to flush the middle ear and tube, thus reaching every part of the inflamed tract, carrying out with it all products of inflammation.
4. Argonin excites a positive and decided effect upon the suppurative process. Boric acid possesses this power but feebly.
5. Argonin stimulates the closing of perforations in the drumhead. Boric acid has no such action. G.

Quinine-Urethane

A mixture of 2 parts of quinine hydrochlorate and 1 part of urethane has been recommended by Prof. Gaglio (*Pharm. Post*, XXXI, p. 271) as the most preferable form of administering quinine hypodermically, on account of its absolute neutrality and freedom from irritant action. The injection giving the best results has been found to be one made with 3 parts of quinine hydrochlorate, 1.5 parts of urethane, and 3 parts of distilled water.

Formula for Itching in Jaundice

Dr. Boullard recommends (*Ges. Therapie*, p. 380, 1898) the following to be rubbed in several times a day:

R Ichthyol..... 5.0-10.0 (1¼-2½ dr.)
Alcohol.....
Ether.....aa 50.0 (each about 2 fl. oz.)

Arecoline Hydrobromate in Glaucoma

Lavagna reports (*Med. Bull.*, XX, p. 264) that for two years past he has employed a 1-per-cent. solution of arecoline hydrobromate whenever he has had occasion to

reduce the ocular tension. The instillation of a single drop of this solution gives rise to a burning sensation, with lacrymation and blepharospasm, but these unpleasant results last no more than a minute after them there are conjunctival hyperemia, with slight circumcorneal injection; but these, too, subside in a few minutes. At the end of two minutes clonic contractions of the iris occur, with diminution of the size of the pupil. The meiosis lasts for about half an hour at the utmost, and then the pupil gradually resumes its former size. The solution keeps well, retaining all its physiological properties for a year. F.

Sodium Sozoiodolate as a Hemostatic in Capillary Hemorrhage

Ad. Cohn, of Adlershof, reports (*Bayer. Aerzt. Correspbl.*, 1898, No. 15) having used sodium sozoiodolate (sozoiodole-sodium) in a number of cases of capillary hemorrhage with brilliant results. Among them were several that had resisted all other methods of treatment; but all promptly yielded to the use of the remedy applied on a compress. The cases treated comprised hemorrhages of the nose and alveola, and one following the removal of an atheroma, in which the hemorrhage was immediately checked, the wound healing on the following day by first intention, so that the dressing could be dispensed with. Experiments with freshly-beaten blood lead the author to believe that the sodium sozoiodolate acts by coagulating the albumin in the blood, and at the same time rendering it antiseptic. He therefore considers the remedy especially applicable in all cases of capillary hemorrhages. F.

Treatment of Cold Abscesses with Creosote in Glycerine

Rev. de Thér. méd-chir. (No. 14, 1898, p. 483) credits Estor with relating before the Society of Medical Sciences of Montpellier (*Nouv. Mont. Méd.*, July 3, 1898) the case of a patient who from 4 years of age to 29 years of age had a running sore on the right middle finger, started by a cut from a knife in the first phalanx. Various therapeutic measures had been tried: Sea baths and Balaruc baths, iodine preparations, cod-liver oil and chloride of zinc, all without success. Estor took away the phalanx and the anterior third of the metacarpal bone. The suppuration came back in new channels. He then injected creosote in two-thirds glycerin along the track of the fistulous openings. A few months later cure was complete, suppuration and fungosities were gone, and the fistulæ were cicatrized. This state has remained for six months. H.

REVIEWS

Modern Gynecology: A Treatise on Diseases of Women. By Charles H. Bushong, M.D. Illustrated. Second edition, enlarged. New York: E. B. Treat & Co.

This volume fulfills its object in presenting to the general practitioner the most important methods of treatment of female affections, in a concise and clear manner, free from the numerous devices and speculations of the specialist. This second edition comprises all the recent advances in modern gynecology, and will, therefore, be highly appreciated by all those who desire to obtain a trustworthy, handy reference-book.

On Cardiac Failure and Its Treatment, With Especial Reference to the Use of Baths and Exercises. By Alexander Morrison, M.D., Edin. The Rebman Publishing Company, Ltd., London, 1897. Pp. 256. Price, 10s.

In the domain of active therapeutics this excellent work has reference to the balneological and gymnastic treatment of chronic heart-disease. It is essentially of a practical character, very complete and comprehensive, and a safe and needful guide to those desirous of becoming acquainted with the latest methods of treatment. The main divisions of the subject-matter are: 1. The Diagnosis and Symptomatology of Cardiac Failure. 2. The Neuro-Muscular and Hæmic Factors in Disease of the Heart and Their Bearing Upon Prognosis and Treatment. 3. The Treatment of Cardiac Failure by Baths and Exercises. To these is added an appendix by Dr. Gröedel of Bad-Nauheim. Numerous plates illustrate the various Schott movements. The book has been carefully written, showing thorough application, and may be recommended as an excellent addition to the literature on the subject. The author well relates the results of his own clinical observations. One could wish, however, that the type were less heavy and more distinct.

A Manual of Instruction in the Principles of Prompt Aid to the Injured; Including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use by Alvah H. Doty, M.D., Health Officer of the Port of New York, late Major and Surgeon Ninth Regiment, N.G., S.N.Y.; late Attending Surgeon to Bellevue Hospital Dispensary, New York. Second Edition, Revised and Enlarged. New York: D. Appleton & Co. London: 33 Bedford street. 1898.

This little volume of Dr. Doty's would do an immense amount of good if it could be introduced as a text-book into every grammar-school in America. It is an excellent elementary work on the topics with which it deals and one calculated to fit young people for the handling of emergency cases. The apparent design of the author and of the publishers is to get it into the hands of "First Aid" classes among police, soldiers, and civilians who wish to be of service to their fellows when accidents occur. Here, too, it will no doubt prove of great advantage, but at the same time it is likely to lead such people to become too officious and too likely to assume responsibilities for which their education is

wholly inadequate. Had such people had the little training required to make them of service to the physician as first aids while they were young and at school, by the time they had grown up they would have outgrown the overmeddlesome tendency. A little learning is a dangerous thing, particularly when acquired in adult life. It is, perhaps, equally pernicious in its effects on the young, but as every one discredits their ability and is inclined to curb them, the danger is reduced to a minimum. Not so, however, with the over-officious adult. He is likely to be encouraged, and the tendency is for him to go even farther than his own judgment tells him he should. In these times of war the part of the book devoted to the drill regulations of the ambulance corps will be of great interest to medical men generally. The volume looks very pretty with its red cross on the front cover. The binding, paper, and typography are first-class in every particular.

Board of Health Bulletin of North Carolina

No. 10, Vol. XII, January, 1898, of this Bulletin contains the laws and regulations of North Carolina for dealing with smallpox, vaccination, and quarantine. A second article gives a new method of inducing sleep, which consists in producing regular exercise of the brain by directing certain physical exercises instead of permitting a wandering of thought in an aimless, untiring way. Another article by Loveland, answering questions often asked about drinking-water, is worthy of a perusal. An article on "How to Prevent Typhoid Fever in Rural Districts," by Dr. Bashore, is suitable reading for a health journal. Finally, the bulletin very properly ends with a copy of the blank form required to be filled in by each physician and sent to the local health officer in every part of the state once a month. It asks "Have any of the following diseases occurred in your practice during the month just closed? State No. of cases." The diseases mentioned are, whooping-cough, measles, diphtheria, scarlet fever, pernicious malarial fever, hemorrhagic malarial fever, typhoid fever, typhus fever, yellow fever, cholera, smallpox, cerebro-spinal meningitis. Then follow the questions: "What have been the prevailing diseases in your practice?" "Has any epidemic occurred among domestic animals? If so, what?" "What is the sanitary condition of your section, public and private?"

The Indiana State Board of Health recommends cremation for burial. The members of that board deem burial unscientific and dangerous in cases of infectious or contagious diseases, while cremation is in perfect agreement with scientific sanitation.

Prof. Baron, of Berne, has left all his property to the city of Berlin for the establishing of a vegetarian children's asylum. His vegetarianism was limited to the exclusion of all food derived from dead animals. Eggs, milk, butter, cheese, and honey were not excluded. The will provides that no physician shall ever be trustee of the institution.

A vigorous attempt is about to be made to prevent the extinction of the population of Madagascar. It is proposed that next year every bachelor of 25 and over who cannot show that he is the father of at least one child, legitimate or illegitimate, must pay an annual tax of \$3, and every childless woman over the same age must pay half this amount.

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE

Issued on the 10th and 25th of the Month

HORATIO C. WOOD, M.D., LL.D., Editor
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is no longer in our employ, and is therefore not empowered to make collections or to solicit subscriptions for the American Medico-Surgical Bulletin.

Our readers will please bear this in mind.

THE BULLETIN PUBLISHING CO.

EDITOR'S NOTES

The army surgeon's lot in times like these is far from being a happy one. With the public up in arms against him, with the reporters dogging his footsteps at every turn, and maligners ruffling his sweet temper with lying tales, which he is forced to fathom with circumspection, it is a wonder that he has not broken down and himself gone under some doctor's care. To have a lot of drunken brawlers whom he has spoken plainly to concerning the cause of their break-down, advertise him to the world as cruel and perverse with the sick, to have dear mothers of dear sons go into hysterical indignation because he has dared to hint that their darlings had been out with the girls of the town and got a dose of some nameless disease, and to be compelled to object because superior officers restrict and override his sanitary orders, are almost

enough to make a sane man crazy. If some of our newspapers would work up this side of the sensational aspect of the war they would be able to do as much good as they are now doing harm by pursuing their present course. To find that a large part of the sickness—possibly one-fourth—that is now creating such a feeling of indignation against army regulations, or rather lack of regulations, is due wholly to the self-indulgence and lawlessness of the brave boys themselves, might place the matter in a new light and lead to improvement. When, oh when, will our newspapers try to get at the truth? When will our volunteer soldiers discover that restraint is wholesome and discipline wise? When will our people find out though they may be in their own esteem omniscient, because they know nothing of the conditions they debate, that the men who are in charge and at the front are all mentally finite and cannot be expected to avoid all mistakes?

Excepting homeopathy there has probably been no subject ever before the American medical profession which has given rise to half the discussion and heart-burnings as have medical education and state control of the door of entrance to the practice of medicine. Although the official machinery is still crude, and works with many jars, irregularities, and hardships, nevertheless we opine that a great majority of the profession is now convinced that the erst-time small minority was right, and that the State ought to control the practice of medicine. The good so far achieved seems to us to be chiefly the outcome of the indirect influence exerted upon medical-teaching bodies. No doubt the public examining boards occasionally make mistakes, but on the average the results obtained in their examinations are probably not far from the truth; and the efficiency of the teaching in the various colleges is probably fairly represented by the comparative figures obtained by their graduates before the state boards. It is evident that the college whose graduates habitually fall behind will eventually be forced for self-preservation to reform its methods, if due publicity be given to the deficiencies of those whom it sends up to the state boards. An annual compilation, giving the total comparative results reached in all those states which have medical examining boards, would be most useful; and we commend very earnestly the preparation of such a report to the Annual Congress or Convention of the State Examining Boards. Why could not a committee be appointed, which each year would put into the journals the results of the previous year?

It is, of course, not fair to judge a college too closely by the report of a single year or state, and yet straws often show the set of the current; and as a contribution to the literature of the subject we give the following tabulated results of the recent examinations by the State Board of Pennsylvania:

College.	No. Exam.	No. Rej.	Per cent. Rej.	Gen. Average
Baltimore Medical College.....	25	6	24.0	76.71
Jefferson Medical College.....	20	5	25.	74.73
Medico-Chirurgical College (Phila.).....	76	8	10.5	78.84
Physicians & Surgeons (Baltimore).....	2	1	50.0	76.71
Western Pennsylvania.....	21	8	38.1	72.39
Women's Medical College (Phila.).....	26	1	03.9	78.68
University of Pennsylvania.....	93	1	01.	83.63
Miscellaneous.....	53	17	32.1	75.61
Total.....	316	47	14.9	78.77

Will the time ever come when the public will treat the medical man justly? It is either all praise and praise that is not ours by right, or all blame and blame for things of which we are perfectly innocent. When the patient does well the doctor gets all the credit; when the patient does badly, in the same unstinted manner the blame is poured forth. Before the present war the newspapers were filled with glowing reports of the wonderful things medical science is capable of doing. Exaggerated accounts of our prowess were copied from journal to journal and the hospital surgeons and dispensary doctors were eulogized in glowing headlines, surmounted by their photographs. All this is now changed. Medical men are in disrepute because of the consequences of the war. The odium of the supposed mismanagement is casting its blighting shadow over the whole profession. "When one member suffers, all the members suffer with it," says Holy Writ, and now we are all in for condemnation whether we had anything to do with the army or were mere stay-at-homes. The politician-doctor is mainly to blame for this in that without semblance of sense or reason he helped the sensation-loving press condemn the camp at Montauk and other camps, because he thought he saw a chance to help his political party. Now the old cry about the disputes and differences among doctors upon the most essential features of their profession has begun again to create new skepticism and bring new disrepute.

Our soldiers are being scattered all over the land to infect rivers, lakes, brooks, and springs with bacteria- and ameba-laden dejecta. Where before existed health will soon appear disease and disease in forms new to our practitioners. With the rising tide of infection is likely to come a renewal of condemnation, for all of which the profession can thank the yellow journals and their willing medical tools. The profession's worst foes are those of its own household and its notoriety-loving members who cannot distinguish between notoriety and popularity, who seek to get themselves into notice through the daily press, cause the bulk of the mischief.

PUBLISHERS' DEPARTMENT

HOME-SEEKERS' EXCURSIONS

On the first and third Tuesdays in September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line in South and North Dakota and other western and southwestern states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following named persons: W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn street, Chicago, or Geo. H. Heafford, General Passenger Agent, Chicago, Illinois.

MERCAURO AND ARSENAURO

The Charles Roome Parmele Co., 36 Platt street, New York, sends this regular response to letters received from the laity:

Yours received. There is no question as to the therapeutic value of Arsenauero and Mercauro. They must, however, be administered under the observation of a physician. The dose must be increased or decreased to meet the conditions, which can only be determined by a medical practitioner. Send the name of your physician and we will place before him the facts which we possess. Our work is entirely ethical, and while our products are extraordinary ones, their full therapeutic value can be secured only through proper administration. As it is solely the province of physicians to prescribe, you will understand why we, being chemists, must decline to send you clinical reports.

Dr. Anita Newcomb McGee, wife of Prof. W. J. McGee, head of the Bureau of Ethnology at Washington and daughter of Prof. Simon Newcomb, former chief of the Naval Observatory, is the first woman ever appointed as an officer of the United States Army. She is entitled to the uniform of a second lieutenant. She has the entire charge of the examination and assignment to duty of all the female nurses of the U. S. Army. She was born in Washington thirty years ago, and is a graduate of an Italian college and an English university.

NEWS

The *Denver Republican* says that the condition of Colorado's insane is pitiable.

The St. Louis Board of Health has lately been testing the efficacy of formaldehyd gas as a disinfectant.

Queen Amelia of Portugal has recently graduated as a doctor of medicine after pursuing a five years' course of study. Her first patient was her husband, King Charles I, whom she has been treating for obesity.

The Baltimore *American* says that Porto Rico can offer no inducements to medical men. There is plenty of sickness there, but each native practises on himself. They are great believers in the efficacy of herbs, and these are used by rich and poor alike.

Some unknown New York millionaire has made a gift of one million six hundred thousand dollars to Cornell University with which to start another medical college in New York city. Land has been bought on First avenue and Twenty-seventh street, and the plans are ready for the erection of a six-hundred-thousand-dollar building.

Through a personal application of Dr. J. M. Mathews, of Louisville, Ky., to Surgeon-General Sternberg, Dr. Vernon MacCammon, a recent graduate of the Kentucky School of Medicine, has been commissioned surgeon in the army, and as he is a yellow-fever immune it is expected he will be sent to Cuba. He is only 22 years old, but is said to have traveled extensively in the tropics.

St. Louis papers have begun a war against the street-sweeping machines. The *Republic* in large headlines says that "Disease and death are in the street-sweeping machine. These clumsy vehicles that rattle through the streets at night scatter broadcast germs that endanger the health of hundreds of thousands." The commissioner has promised to stop early evening sweeping on account of its dirtying the clothes of pedestrians.

Pittsburg and Allegheny, Pa., in preparing for the coming triannual convocation of Knights Templar, have organized a medical corps that includes the best-known physicians of Pittsburg, Allegheny, and nearby towns. This corps will be scattered through the two cities during convocation week, with ambulance headquarters at principal points of interest. There will also be a number of emergency hospitals, with nurses in attendance, for the relief of visitors who may meet with accidents or be overcome by heat.

According to the *New Orleans States*, Dr. Mathews, president of the American Medical Association, says that Dr. Sternberg adopted the only course open to him in appointing army surgeons. Thousands of names were on file from which he had to select without opportunity to examine as to qualifications or anything else. He took the recommendations of Congressmen and physicians. On Congress then falls the bulk of the blame if incompetent men were appointed. Dr. Sternberg is no more able to accomplish physical impossibilities than any one else.

The citizens of Brooklyn, New York, have been considerably alarmed of late at the prospect of an epidemic of typhoid fever, and everybody who drinks water in that borough has

been cautioned to boil it first. It is feared that the water which is taken from Hempstead reservoir and the ponds near it has been contaminated by the presence of typhoid fever at Camp Black. The health officers have admitted that the Hempstead reservoir and some of these small ponds may already be infected, but they also say there is no danger, and that Brooklyn people need feel no uneasiness if they will only boil the water.

Reports from Havana say that yellow fever is increasing, owing to the concentration of Spanish troops there, the bad sanitary condition of the city, and the large number of half-starved people, who are wandering about the streets.

The evening edition of the *Diario de la Marina* published an article calling the attention of the health officers and the civil government of Havana to the number of poor people that are dying daily of fevers and other diseases.

"Corpses," it says, "are left without burial for hours and hours in small rooms when in a state of decomposition, and others are left in small houses where as many as fifteen people lived. It is necessary for the government to aid these poor people and save the city from a really dangerous situation."

On September 4 the Board of Health of Memphis, Tenn., bottled up its city in the following manner:

"Be it resolved, that from and after this date an absolute quarantine against all persons, whether coming by rail, river craft, or private conveyance, is hereby declared.

"Provided, however, that citizens of Memphis desiring to return home shall be allowed to do so under such conditions and restrictions as this board may impose; provided, also, that all through passengers by rail shall be carried through the city without stopping and by continuous railroad passage.

"From this date inspectors will be on all trains and will see that passengers in transit do not leave the train in Memphis or within the picket lines which will be established.

"All approaches to Memphis, either by river, rail, or dirt road, will be picketed day and night, and this order will be rigidly enforced."

A Santiago telegram to the Associated Press says that "as the result of the general introduction by General Wood, Military Governor of Santiago de Cuba, of American methods of conducting municipal affairs, this ancient and always unhealthy city presents a health record to-day which is quite extraordinary, considering the conditions that existed a month ago.

"Under the present system Santiago is divided into five divisions, under five physicians, each division having inspectors of sewers, streets, houses, and dispensaries, with 100 street-cleaners. Five hundred cubic yards of refuse are burned daily, disinfectants are distributed wherever they are needed, and a heavy fine is imposed for uncleanness and failure to report unhealthful conditions and death.

"Quick proofs of the benefit of the system are furnished by the decrease in sickness among the poor. The daily death-rate of seventy a month ago has fallen to twenty. Further evidence of the wisdom and thoroughness of the new sanitary arrangements is supplied by the lessening of sickness among the new troops."

San Francisco has a new Red Cross hospital at the Presidio planned for erection. It will be 104x34 feet in dimensions, and be one story in height. The front will be occupied by physicians' rooms, kitchen, bath, and nurses' rooms.

dining-room, with heaters and other conveniences. The rear extension will be occupied by the officers and rooms for nurses, and a ward for fever patients. The center building will be for the hospital proper, and will contain beds for twenty patients. Entrance from front, rear, and sides will be provided. The hospital will be constructed of wood in rustic style.

Inside the trimmings will be of Oregon pine. The wards will be heated from coils containing hot water circulating around the walls of the structure. Additional warmth will be provided by brick fireplaces of large size. A sewer will conduct the waste water to the bay. The arrangements for ventilation are most complete. Though built in short order, nothing will be lacking to make the hospital absolutely perfect in its appointments.

The designer contemplates an ultimate extension of the present building to double the size of this one, to be erected as soon as the emergency requires it. The funds for the hospital are furnished by the Ladies' Red Cross Society.

A circular sent to physicians, local health boards, and others by the Michigan State Board of Health says:

"The secretary of the State Board of Health thinks it is about time that health officers and prosecuting attorneys in Michigan were more generally complying with the law which requires their action when physicians and householders do not report dangerous diseases. Consumption is the most dangerous communicable disease in Michigan, and the law is being disregarded, not only in Detroit, but in some other parts of the state. The following letter, from a prominent physician in the southern part of Michigan, is illustrative of the results of non-enforcement of this law:

"Is there no way by which physicians are compelled to report to the health officers contagious diseases occurring in their practice? I know to my certain knowledge of a young lady at present a victim of pulmonary phthisis who contracted the same by her parents moving into a house in which a lady had, six months previous, died of consumption. The girl occupied the same room as deceased, which had not been disinfected nor even repapered. The girl was in a debilitated condition, and as a result she now has tuberculosis. This is a case about which there is, in my mind, not a vestige of doubt."

The *Baltimore Sun* says that "Dr. Jaeger, of the University of Koenigsberg, Germany, recently delivered a course of lectures on hygiene and bacteriology for ladies, which included practical experiments in applied bacteriology, for instance, in the preparation and preservation of food by methods used in scientific research. At the close of the course there was a public exhibition of kitchen products—some raw and some cooked—that had remained in a warm room for from five to sixteen days, and which were of all forms, perfectly fresh, and quite unchanged in appearance and taste. Nor had any complicated procedure been required to attain this result. The principal deductions made from these experiments were:

"1. The use of vessels with well-fitting overlapping lids, instead of the inside lids used in kitchens all the world over, which allow stray bits of matter that may adhere to their rim to fall into the food. 2. Avoidance of opening the vessels in which the food was kept, or, where this was indispensable, careful manipulation as in bacteriological work. 3. The use of cotton-wool as a covering. Cotton-wool lids had been specially prepared to fit the wide tops of the food-

vessels; they consisted of a circular disk of cotton-wool, tightly held between two metal rings, the outer of which formed the overlapping rim of the lid."

Dr. John A. Ellis, of Kansas City, Mo., after a careful inspection of Chickamauga, writes to the *Journal* of that city that "the first case of typhoid made its appearance within two or three days after the arrival of the volunteers, thus plainly showing it was brought there. The surgeon in charge took no means whatever for isolation and sanitation, nor usual medical care and treatment. The case should have been isolated away from the camp, the tent and equipage thoroughly disinfected, and the ground around it burned over. Soon another case followed, and another, with the same neglect of sanitary measures. Surgeon-General Sternberg foresaw these conditions and issued an address, not once, but several times, calling attention to these conditions. He charged that these camp epidemics were not due to climate nor surroundings, but to utter recklessness in cooking, sanitation, and discipline.

"The surgeons, to throw the responsibility from their shoulders, raised a hue and cry of impure water, unhealthy climate, dangerous camp-grounds, etc. The trouble does not lie there, but in the ignorance, the utter incapacity of the medical department to fitly understand the gravity of the disease. Take the commands under the charge of the regular army surgeons. How much sickness? About 2 per cent. These old colonels and surgeons told them what to expect if proper measures were not taken, but these warnings were not heeded.

"Now, what caused this? The climate? No; but negligence."

New Orleans has been under quarantine for yellow fever. According to a dispatch to the *St. Louis Globe-Democrat*, this is how it all started: Dr. Dunn, of Greenville, Miss., learned, while sitting a railroad office, of a case of sickness on Julia street. Dr. Barry, a physician thoroughly experienced in yellow fever, was in attendance. He did not even consider the case suspicious, and had not reported it. Dr. Dunn, however, heard of the case, and went to the house without invitation or request. He looked at the patient hurriedly and wired to Mississippi that the case was yellow fever. As a result, quarantine was immediately established in Mississippi, Alabama, and Texas, and the whole country was notified of fever in New Orleans.

President Souchon, of the State Board of Health, had pledged himself to other state boards to notify them of even a suspicious case. He felt aggravated over the action taken. Dr. Souchon, when notified of the action taken, at once requested Dr. Carter, of the Marine-Hospital service, to act with the experts, while Dr. Sanders, of the Alabama Board of Health, was invited to come here and see for himself. They all reported that the case was not yellow fever, and so notified the health officials of the states in which quarantine had been established. The matter was taken under advisement. On September 9 Dr. Souchon stated that all quarantine restrictions against New Orleans had been removed. Quarantines are, however, in existence against Lafayette county, Miss., and Franklin, St. Mary Parish, La.

Lord Roberts, of the British War Department, was recently examined as a witness before the commission appointed to inquire into the working of the English liquor-licensing laws. His evidence dealt with the army-canteens. There had been, he said, an improvement in the system.

The profits formerly went to the contractor, whereas since the present system came into force the canteen became absorbed in the regiment. In India the word "canteen" was now dropped, and the place in which the men obtained liquor was called a "bar." In some regiments they had excellent regulations as to the selling of tea and coffee in the morning and suppers at night. It was his opinion that recreation-rooms were better apart from the canteen. The canteens were under the control of a committee of the officers of each regiment, and the men who disposed of the goods had no interest whatever in the profits. Drunkenness was less common among soldiers now than was the case twenty or thirty years ago, and the men were better behaved. Upon being questioned as to soldiers getting drunk in barracks, and then being allowed to go out and obtain more drink in public houses, Lord Roberts said a soldier would not be let out of barracks if he were drunk. If he were in that state he would be turned out of the canteen and taken to the guard-room.

Major-General Burnett's evidence showed that the canteens are managed on the co-operative principle, and the stewards had no interest in the sale of drink; the money sales not even pass through their hands. The canteen is opened at noon and closed at tattoo. The profit is at least 100 per cent. and is used for the benefit of the regiment, being made easily despite the beer being retailed at less than public-house prices.

The following are titles of some of the papers to be read at the meeting of the Mississippi Valley Medical Association, to be held at Nashville, October 11-14: B. Sherwood-Dunn, Boston, Mass., "Why I Have Abandoned the General Practice of Vaginal Hysterectomy;" J. A. Stucky, Lexington, Ky., "Tonsillitis or Quinsy, Causes and Treatment;" H. W. Whitaker, Columbus, O., "Pichi;" A. Ravogli, Cincinnati, O., "A Few Practical Points in the Treatment of Posterior Urethritis;" Frank Parsons Norbury, Jacksonville, Ill., "The Neuro-hypothesis of Rheumatoid Arthritis;" A. M. Osness, Dayton, O., "Diphtheria and its Logical Treatment;" F. E. Kelly, La Moille, Ill., "Varicocele;" F. F. Bryan, Georgetown, Ky., "A Plea for Pelvic Peritonitis and Cellulitis;" John M. Batten, Pittsburg, Pa., "Syphilis;" George W. Johnson, Dunning, Ill., "Gonangiectomy and Orchidec-tomy for Hypertrophied Prostate in Old Men;" George F. Keiper, Lafayette, Ind., "Wounds of the Lachrymal Apparatus, Report of Operation for Restoration of Canaliculi Obliterated by Traumatism;" Shelby C. Carson, Greensboro, Ala., "A Consideration of the Limit to Operative Gynecology;" W. H. Humiston, Cleveland, O., "The Relations of the Gynecologist and the Neurologist;" W. Gaston McFadden, Shelbyville, Ind., "Intermingling and Changing of Type in Diseases;" William F. Barclay, Pittsburg, Pa., "Mercury and Its Action;" J. Rilus Eastman, Indianapolis, Ind., "The Diagnosis of Gonorrhea in Women;" S. E. Milliken, Dallas, Tex., "Sub-Periosteal Removal of Caries from the Pelvic Basin, with the Report of Cases;" Thomas Charles Martin, Cleveland, O., "Complete Inspection of the Rectum by Means of Newer Mechanical Appliances;" George D. Kahlo, Indianapolis, Ind., "Hydrotherapy in Stomach Diseases;" Alexander C. Wiener, Chicago, Ill., "Surgical Treatment of Infantile Paralysis;" James M. Parrot, Kingston, N. C., "Supra-public Cystostomy vs. Perineal Section;" R. C. Pratt, McKenzie, Tenn., "Report of Cases in Obstetrics with Complications;" John L. Jelks, Memphis, Tenn., "The Relationship Between the Genito-Urinary Tract and Rectum,

with Special Reference to the Female;" T. Virgil Hubbard, Atlanta, Ga., "How Should We Treat Typhoid Fever?" W. W. Taylor, Memphis, Tenn., "A Clinical Contribution to Ec-topic Gestation;" M. Goltman, Memphis, Tenn., "Interesting Surgical Cases;" I. N. Love, St. Louis, Mo., "The Bicycle from the Medical Standpoint;" Joseph Price, Philadelphia, Pa., "Surgical Treatment of Pus in the Pelvis;" Andrew Timberman, Columbus, O., "Operations on the Mastoid, When and How Performed;" R. A. Bate, Louisville, Ky., "Arthritic Dia-thesis;" Charles W. Aitken, Flemmingsburg, Ky., "Diagnostic and Therapeutic Uses of Tuberculin;" G. W. Halley, Kansas City, Mo., "Some Pathological Conditions of the Ovaries and Adnexa Causing Pain."

Dr. Samuel E. Woody, of Louisville, Ky., has determined not to submit to the ruling of the Board of Regents of the Kentucky School of Medicine. In a communication sent out, on paper bearing the college letter-head, to the alumni of the institution and signed by himself as dean, he says:

"At a recent meeting of the Board of Regents of the Kentucky School of Medicine, a majority of that board, contrary to the plain letter of the statute which expressly forbids the removal of any professor unless recommended by a majority of the faculty, assumed the right to declare vacant the chairs of Drs. Kelly and Woody. This was done at the instance of Dr. Wathen, who himself secured in 1886 the very statute which protects the tenure of office of the various professors. On the faith of that statute the professors invested very largely in property and fitted it up for teaching.

"Legal advice has been taken upon the action of the board, and the opinion expressed that without doubt the action of the board was wholly illegal and void.

"After this futile attempt at usurpation of power on the part of the board, Drs. Wathen, Coomes, and Orendorf, and perhaps the gentlemen whom the board assumed to elect, met in a pretended meeting of the faculty and went through the form of electing Dr. Wathen, dean, and Dr. Orendorf, secretary, although, as you may know, Dr. Woody had previously been elected dean for a year by the whole faculty, and Dr. Marvin had been elected secretary for the year by the whole faculty.

"Much as this dissension and internal trouble in the management of the school is to be regretted, it is nevertheless the duty of the dean to make known to the alumni the true state of affairs. The right of the board to do what it has undertaken to do will be as speedily as possible brought to the test of judicial decision, and no doubt is entertained that the action of the board will be promptly declared void.

In a later communication Dr. Woody says:

"Since my previous circular I have brought, as I therein promised, the matter in dispute to the test of judicial decision, and have the pleasure of informing you that there now exists an injunction against Dr. Wathen, restraining him from claiming either orally or in writing to be dean of the faculty of the Kentucky School of Medicine, and from claiming the right to receive any of the mail addressed to me as dean, or merely addressed to the dean of the faculty, or addressed to the Kentucky School of Medicine.

"The injunction also restrains Drs. Cochran and Boyd, and each of them, from claiming either in writing or orally to be professor of the Kentucky School of Medicine."

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EDITORIAL

MEDICAL ADVERTISING IN THE LAY PRESS

THE battle between altruism and selfishness is one that is likely to continue till the last man born upon this earth is ethically a saint. We are all streaked less or more with the latter tendency and are naturally prone to display this side of our makeup whenever it seems to us that in the struggle for existence we can through giving way to selfish desire improve our condition. To all of us self-preservation is the first law of nature, and the way we individually construe the various acts of our lives as self-preserved depends very much upon our conceptions of our duties to our fellow men. To those with high moral intelligence it is evident that the individual is best cared for and best preserved by co-operative aid from his fellows. To such a one, therefore, duty is the highest and best act of self-preservation. By working for the good of others he accomplishes a maximum of good for himself. Action and reaction are equal and opposite, ethically as well as physically, and the man who acts viciously upon his fellows must, as soon as they discover it, endure the painful reaction that is bound to come. Acts that can with impunity be done by every member of a community or society, and that result in no ill to any, are pre-eminently vir-

tuous acts. Acts that produce evil with increasing force as more and more members perform them, are pre-eminently evil and vicious. Obedience to the golden rule could never do harm to any one and would result in greater and greater good to all, the more the number of those who obey it. Murder, theft, lying, and all crime are of such a nature that the more the number of those who practise them the worse it will be for the community. The supreme test, therefore, of an act as to whether it is good or bad, ethical or unethical, is not to be sought for in a code or rule, but in ascertaining whether its adoption by an increasing number of persons will lead to increasing good or increasing evil results. No society can afford to let any individual member do what it is not willing all shall do with perfect and impartial impunity. It will be well for us to apply this test to newspaper advertising by medical men and see to what consequences it will lead.

We have noticed during the past few years a strong tendency on the part of some of the leading men of the profession to imitate in a mild way the habits of advertising doctors. Editors of leading medical journals, professors in well-known medical colleges, members of the staff in first-class hospitals, and even private practitioners having some local reputation in town and country do not hesitate to supply newspapers with sketches of their careers, photographs of themselves, and tales of their

medical and surgical prowess for publication.

We have before us as we write, seventeen of these sketches, with large reproductions of photographs of prominent medical men, which appeared in an influential western daily paper on September 13. They were clipped and sent to us, so that we do not know how many more that issue may have contained. The persons who were thus honored seem to be selected from the very cream of the profession of that region. Many of them are members of the American Medical Association.

We cannot believe that any of them thought that they were doing wrong in supplying these sketches and pictures to the reporters, although their act is of precisely the same kind as that which caused so much trouble to some members of the Atlanta Medical Society a little over a year ago. It is quite likely that these pictures and brief biographies were solicited by the newspaper in which they appear, but, whether solicited or not, is it not apparent to these men that they are really advertising, and has it not also occurred to them that they are creating a feeling of jealousy in the minds of their less-favored brethren? The editor had some personal motive in publishing these sketches, and in this motive he found his pay, whether it was cash or something else. The advertisements appeared in his paper, and he was paid for them, so that so far as the act is concerned, it cannot be considered any different from their being paid in straight cash. Indeed, who can say that he did not put in one or two of the leaders free as a bait to extort cash from the lesser lights? This has been frequently done in advertising schemes. Occurrences of this kind, if not distinctively unethical, strain our ethical standard to the breaking-point. If one is permitted to advertise, then all should be permitted to do so.

Now, what is the effect upon the profession at large when such things occur? It makes us the butt of ridicule of advertising quacks on one hand and of the newspaper men on the other. These men look upon every occurrence of this sort as a manifestation of hollow hypocrisy, and again and again they have attacked us bitterly for it. They charge the whole profession with being "inoculated with the virus of commercialism," yet lacking the quack's honesty of being willing to pay his advertising bills. They call us deadhead advertisers, and charge us with corrupting reporters with bribes. To the crime of hypocrisy they say we add that of corruption, and teach their reporters to filch from the stockholders cash that should go into the general coffers of the concern. In proof of these broad charges, which, of course, the rank and file of medical men know to be absurd as they are false, they point to men whom we hold in high esteem as representatives, and show that they bear the marks of guilt. They ask where, if not from these men themselves, the reporters get the photographs and the facts. As it is impossible for the public to tell whether the renowned professor, the great surgeon, the well-known medical editor, the politician doctor, or the local medical celebrity paid straight cash for the advertising received, accepted it as a sort of stolen goods from the reporter, obtained it as a charity offering from the stockholders, had it bestowed upon them as a friendly gift, received it as pay for permitting themselves to be used as a bait to catch money from their fellow practitioners, or took it on the tramp's plea that the world in owing them a living owes them free advertising, it would seem as if there was considerable excuse for so natural a mistake. It certainly does not seem fair to permit the great ones of the profession to advertise in this way, and to seek to punish the

lesser ones for doing the same thing. It certainly cannot successfully be maintained on any principle of ethics that it is right to receive gifts from any one without intending to return their equivalent at some future time, even if not immediately. Reciprocity is the very foundation-stone of social unity. To fail to do as much for one's fellows as they do for us is to start to undermine the whole structure of society. To accept of newspaper notices without intending to pay for them in some form is as disgraceful an act, ethically, as to accept alms when we are rich. Indeed, the two acts are fundamentally alike. View the matter how we will, it is not possible to find any ethical excuse for those who permit their pictures, biographies, and notices of ability to appear in the public press without payment of some sort. Either we should not permit ourselves to be advertised through the press at all, or we should be willing to pay for our advertising in an honest manner.

It is mere subterfuge to say that we cannot help what the reporters do. We certainly can help it if we wish to do so. Let them report the cases we have attended if they wish to. Let them laud our work to the skies if that is their desire, but let us beg of them to mention us as Dr. X, Y, or Z, and not by our proper names. Let us refuse to supply them with our pictures, and to tell them for publication of other great deeds we have done, or volunteer the information of where we were born and where we studied. All that any medical man can do in this age of collective discovery is to act on knowledge he has acquired from others. To take the credit to ourselves in these newspaper-puffs of some operation done or cure accomplished is to claim for ourselves individually what belongs by right to the whole profession. Render unto Cæsar the things that are Cæsar's is an ethical command of undoubted validity.

MEDICAL VAMPIRES

UNDER the above title there appear in the Little Rock (Ark.) *Democrat* of September 23 some interesting extracts from a government report of W. J. Zevely to Secretary Bliss and comments upon them. Coming as this does from the region where the outrages complained of are being perpetrated it shows that the leading laymen of that region are aware of the villainy of the quacks that surround them. It appears from this report that Superintendent Little, of Hot Springs Reservation, is working with all his might to rid the region of a lot of medical practitioners who send out drummers to divert the sick people who go to the Springs in search of health into their nests, where they fleece the unfortunates unmercifully. It is each drummer's duty to find out approximately how much money the intended victim has with him, and then to steer him to their doctor. The doctor divides with the drummer the money taken from the patient. These drummers travel on the trains bound toward Hot Springs, and find out what passengers are going there and what they are going for. If invalids, they are advised to consult the doctor who cures every case he touches, and who saved the soliciting drummer from the grave. Should the patient be discovered to be well off, the doctor makes a diagnosis that is grave, and advises some sort of an operation that the sufferer is told will surely cure. In some cases recited in the report the pretended operations never went farther than anesthetizing the patient, cutting through the skin, and carefully sewing it together again. For this \$500 was charged. New arrivals are told that the different supplies of hot water are different in composition, and must be used with intelligent discrimination to get benefit and not injury from them. This is the bait used

to catch all who are ignorant of the fact that there is but one common supply for all.

This method of advertising by means of drummers is not peculiar to Hot Springs, Arkansas. We have heard of its being used with more or less success by doctors in other parts of the United States. In some of our large cities it is currently reported that certain doctors employ men and women whose duty it is to recommend the doctor to sick people outside of his office, and to go to that office to swell the crowd of waiters and persuade them to believe that he will surely cure them. In this way the doctor establishes confidence in the minds of the doubting, and holds them until they are well, or until he has exhausted their funds. In this way, too, he gets the advertising habit established among his patients, so that they all become active agents in helping up his practice. Some of those who do this are said to pretend to be ethical. They will not advertise openly in the daily and weekly papers. Most of them, however, are the out-and-out advertising quacks who like harpies prey upon the sick and unwary by every device at their command. It is next to impossible to get the general public to believe that there can exist men and women so depraved as deliberately to set traps to catch the sick and rob them in their helplessness. The murderous pirate and the detestable highwayman people can believe in, because these attacked and robbed the well and strong, but fail to see that those with the instinct of the pirate and robber, no longer being able to practise their arts upon civilized communities with impunity, find in quackery a place of safety adapted to their cruel natures. Protected by law and nurtured by human ignorance, they can go on their murderous way without let or hindrance. While many pride themselves in the belief that natural selection holds no further sway over our race here, we can see

evidences of its slow but certain elimination of the unfit. The victims of quacks are like geese that intelligent people must protect or they will be exterminated by the foxes that prey upon them, unless they cease being geese and become something more intelligent. If all doctors should advertise, and adopt the devices of using steerers and drummers, the intelligent part of the public would have no guide by which they could tell the scientific man from the quack. In the practise of medicine there is no repetition of identical cases. A wagon-maker can prove his ability in making wagons by showing a sample of his work. A doctor has no two cases alike, and the patient who has been cured has neither evidence that that doctor cured him, nor that he could not have been cured just as well, and just as quickly, by the veriest quack. If he gets well quickly it may mean that his case was a light one, and if slowly that it was a difficult one. However far the science of medicine may advance, it will remain difficult and generally impossible for the lay mind to be able to tell whether the pretended cures of the quack are not just as genuine as the real cures of the man of science. As the gap widens between science and quackery the percentage of cures must become much greater with the former than with the latter. As knowledge increases in the community more people will be able to pass just judgment on the claims of each. Let both, however, go into a common fight by advertising, and not only will it stop scientific progress, but it will give the advantage in the struggle for place to the man who can lie most gracefully and deceive with the straightest face. The only guide the general public has at present is the fact that certain doctors do not advertise and others do. The non-advertising doctors are credited with great cures that are not told about, while the advertising ones are compared

among each other, and judged by the size of the claims made and the stories told.

The intelligent part of the public, while wholly unable to discriminate between us and the quacks on questions of treatment of the sick, can see that it is a historical fact that the non-advertising portion of the profession has at all times had the most intelligent practitioners drawn toward it, while the ignorant and superstitious have gravitated toward the advertising quacks. It has also been seen that all substantial progress has accumulated in the hands of the non-advertisers, and, too, that our methods of reasoning are the same as those pursued in the various established sciences, such as astronomy, geology, chemistry, and physics. By drawing toward us by these common bonds of sympathy kindred minds we have been able by the ties of friendship and respectability to grow stronger and stronger in public esteem as time advanced. The distinguishing mark by which the world has ever recognized us as a species has been our code of ethics, and particularly that part of it that has compelled our members to refrain from advertising. To destroy this mark would be to destroy the accumulated advantages of centuries of progress and to throw us down to the level of the quack. To destroy it would be to give up the one distinct feature that has enabled us to survive amid the changes of the past. To give it up would be to have natural selection select as the fittest companion for public ignorance of medical science that quackery which is on a level with itself, and which it can, therefore, better understand. Intelligent people can understand and appreciate decent conduct much more easily than they can physiology and pathology. If we continue to keep up the fight on this ground, in spite of medical drummers and medical advertisers we shall more than hold our own against all opposition.

AMONG THE EDITORS

FELONIOUS PHYSICIANS

It appears that in New York State there is a law which forbids a physician who has been convicted of a felony to practise his profession after being liberated from prison. Some, however, have held that it was not only unjust, but unconstitutional, that a new punishment should thus be added to the sentence pronounced by the courts and served by the convict; nor can it be doubted that there is much to be said for those who object to a special and extra punishment being inflicted on physicians which does not fall on other classes committing precisely the same crime. No doubt with us custom does much the same, so far as better-class practice is concerned, as is done in New York State by law, but we do not absolutely take away a man's means of earning his living—a man "goes under," but he need not absolutely starve. The Supreme Court, however, has recently upheld the constitutionality of this New York State law, and, that being so, we can only hope that its existence will be borne in mind by judges when they consider their sentences, for it is obviously unfair that a man whose punishment is made by law to extend through the whole term of his life should be given the same length of imprisonment as one who, as in the case of many a laborer, steps out of gaol a free man, as able as ever to earn his living, and, too often it is to be feared, not materially reduced in the social estimation of his fellows. —*The Hospital*.

CLINICAL VALUE OF THE MICROSCOPE

To-day our greatest mechanical aid in diagnosis is the modern microscope. Every physician should possess an up-to-date instrument, and above all he should be master of it, not merely using it as a sinister office ornament.

Students who a few years ago took only an occasional glimpse through the microscope, now, when the art of medicine is being transformed into a science, find the instrument a bedside necessity to enable

them to detect the one pathognomic symptom. Guessing on diagnostic symptoms is a practice rapidly fading away, as hand in hand the optical defects of the older instruments and the speculative instincts of our Anglo-Saxon origin are being overcome.

Our patients should not be led to think that they are being treated by machinery, for therein lies danger, yet they should be shown that their blood, urine, or sputum, can be examined at home, or the patient, with the pathological specimen, will eventually drift towards the metropolitan medical institution, and thus we would hear of more hospital abuses.

A certain bacteriologic and pathologic training in a laboratory is, of course, desirable to the intelligent use of the microscope, but the time consumed in acquiring this more exact science is only a trice of that required in the ancient lecture-room where guessing and circumlocution were taught as fine arts.

Aside from the vast number of diseases yet shimmering through the lens, we have many whose recognition depends absolutely and some only in part on the microscope. Diseases of the blood are almost entirely diagnosed in this way. In disorders of the urinary, respiratory, and alimentary tracts, especially those affections of an infectious nature, the great triumph of the microscope is manifest. It has also revealed the nature of neoplastic growths and rescued their treatment from the hands of quackery. It taught us the why and wherefore of a multitude of diseases, and in the rank and file of the profession we should find ten microscopes where at present we see but one.—*Charlotte Medical Journal*.

CHARGE AGAINST PHYSICIANS

In a late number of the *North American Review*, Dr. John H. Girdner holds the medical fraternity largely responsible for the great number of undeserving pensioners now on the rolls of the U. S. Treasury Department.

Most thinking citizens will agree that great frauds have been encompassed in the growth of our enormous pension-rolls. That every case has been passed upon, checked, audited we may say, by medical

pension-examiners there is no gainsaying. It has not been difficult to find some physical infirmity in the veterans appearing before the examiners. No more would it be difficult to discover some ailment in an equal number of men of the same age who had never smelled powder or been under the discipline of a camp.

That the causes of these heart-lesions presbyopias, senile cataracts, hernias, varicose veins, or tertiary syphilides have been invariably the hardships of campaigns and the rigors of a soldier's life is perfectly posterous. This the examiners have very well known, but, owing their appointments purely to political influences favorable to the old soldiers, and being appointed for the sole purpose of passing favorably upon the applicants, it would be strange if this charge were not true.—*Western Medical and Surgical Gazette*.

THE KINEMATOGRAPH IN MEDICINE

A French writer whom we have frequently taken occasion to cite, M. Marcel Baudouin, the chief editor of the *Gazette médicale de Paris*, contributes to the issue of that journal for July 30 an article in which he hints at some of the uses the kinematograph may be put to in the study and practise of medicine and surgery. He says that the idea of putting the instrument to such uses occurred to him when it was first seen on the Paris boulevards and in the music-halls. He contends that it is essentially French in its origin, being founded on researches by Marey, Lumière, and others, but adds that it has been brought marvelously near perfection by the Americans, under the name of the biograph. He thinks it will prove of much importance as the Röntgen-ray apparatus. He points to its probable utility in such physiological studies as that of the gait in animals and in man; in medical and surgical diagnosis, especially in cases of disease characterized by abnormality of movement, such as ataxia, congenital luxation of the hip, etc., whether the fundamental disease affects the nervous, the muscular, or the osseous system; and, moreover, in teaching operative surgery.—*New York Medical Journal*.

CURRENT TOPICS

INFECTIVE VENEREAL TUMORS IN DOGS

In the *Journal of Pathology and Bacteriology* (Vol. 5, p. 99) Drs. Bellingham Smith and J. Washbourn report a case of infectious tumors occurring on the genitals of dogs which they had under observation from 1896. The tumors were communicable by coitus, and the facts recorded are of interest from the comparative standpoint. They conclude from their studies, that

1. The tumors described affect the genitals of dogs and are probably identical with the papillomata, condylomata, and warts of veterinary surgeons, and with the infective tumors described by Geissler and Wehr, and by Duplay and Cazin.
2. The contagion is conveyed during the act of coitus; and the tumors are not dependent upon the irritation of any discharge.
3. The tumors can be transplanted artificially, not only to the mucous membrane of the genital organs but also to the subcutaneous tissues.
4. The muscular walls of the vagina may be infiltrated, and secondary deposits may occur in the lymphatic glands.
5. The clinical identity of the infiltrating tumors and the simple outgrowths is shown by the case in which a bitch with an infiltrating tumor infected a dog with multiple simple outgrowths.
6. The structure of the tumor is identical with that of a round-cell sarcoma.
7. The tumors which have developed in the subcutaneous tissue after inoculation may disappear in the course of a few months.

THE INFLUENCE OF CRUDE SEWAGE UPON ANIMAL LIFE IN SEA-WATER

W. K. Brooks (*Maryland Med. Jour.*, Vol. XXXVIII, No. 15, p. 257), giving the results of experiments by various microscopists on the subject, claims that the germs of typhoid and cholera may live in sea-water for a period of three weeks or more; that they may be taken up by oysters, and that epidemics of these diseases may arise and spread from the oyster-beds. The oyster is not injured by micro-organisms that are injurious to us any more than by those that form its normal food. It is not to be supposed from this that the danger of acquiring typhoid fever through the consumption of oysters is very great, since in an enormous body of water the chances are slight that any particular oyster should

have gathered up bacteria of typhoid or cholera and that it would be eaten raw by a person at that time unable to resist the disease.

L.

THE EXPERIMENTAL PRODUCTION OF FAT-NECROSIS

H. U. Williams has sought (*Bos. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 15), in a series of experiments, to discover the cause of the fat-necrosis so often seen associated with acute disease of the pancreas. Portions of fresh-cut pancreas, 2 to 4 mm. in diameter, using every precaution to ensure sterility, were placed directly in the subcutaneous adipose tissues through small incisions in the skin. Bits of sterile black silk were introduced with the pancreas to mark the spot. The incisions were closed with sutures and collodion. The inguinal regions and a point a little below the sternum were the situations selected. Suppuration always occurred in from four to five days, and the results, as far as fat-necrosis was concerned, were negative or indecisive. It was impossible to determine how far the alterations in the tissues were to be attributed to bacteria and how far to the working of the pancreatic ferments. In order to observe the effect of perfectly sterile pancreas upon the adipose tissues, the following technique was devised, the success of the plan being very gratifying. A cannula made of glass tubing was sterilized in a Petri dish, and a piece of freshly excised cat's pancreas 1 to 2 mm. in diameter was placed in the large end of the cannula with a bit of sterile black silk. It was forced along to the small end with a stiff platinum wire. The skin of the cat to be operated upon, which was anesthetized, having been shaved, cleaned, and rendered aseptic as far as possible, a small incision was made through it. The adipose tissues underlying it were nicked with a knife, and the small end of the cannula forced into the adipose tissues 3 or 4 cm. The pancreas and bit of silk were then pushed out of the cannula by the wire, depositing them in the desired locality, and the cannula withdrawn. The surface was closed with one or two sutures and covered with collodion. Alterations in the fat-cells similar to those seen in fat-necrosis were detected in the region where the pancreas was introduced in six of the eleven cases where infection was avoided. It appears probable to the writer, therefore, that some substance contained in the tissues of the pancreas, doubtless the fat-splitting ferment, is capable of producing changes in fat-cells similar to those seen in fat-necrosis.

L.

ORIGINAL PAPER

THE EMPLOYMENT OF DRUGS IN DIAGNOSIS

By ALBERT ABRAMS, A.M., M.D.,

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THERE are a large number of drugs which are available in diagnosis. They are as follows:

Amyl Nitrite.—This drug together with the other nitrites including nitroglycerin produce dilatation of the blood-vessels with consequent lowering of blood-pressure. The pains of angina pectoris are often inhibited by inhalation of this substance, and it may serve as a means of differentiation from pseudo-angina. Headaches of anemic origin are relieved, whereas if the headache is of hyperemic origin, it is increased. Migraine of spastic origin is relieved, whereas paralytic migraine is intensified. I have employed inhalations of amyl nitrite in differentiating the râles heard in asthma from those of the concomitant bronchitis; the former disappear after inhalation, while the latter persist. Many pulmonary neuroses, such as whooping-cough, asthma, and laryngismus stridulus are relieved in many cases. The phenomena of auscultation are in many instances brought out after inhalation of amyl nitrite. The same may be said of many cardiac murmurs, which are only made evident by this drug, which relaxes the inhibitory cardiac apparatus. In epilepsy, the inhalation of amyl nitrite, when the aura is felt, may often abort the paroxysm. In the edemata accompanying many chronic affections of the kidney, it is often difficult to say whether the diminished diuresis is dependent on heart-failure or circulatory renal disturbances. In such instances, amyl nitrite or preferably nitroglycerin may be given for differential diagnosis. If the cause of the diminished diuresis be resident in the kidneys, then these drugs by re-establishing the renal circulation, will increase the flow of urine. In amblyopia, temporary improvement sometimes follows the inhalation of amyl nitrite. This fact suggests the use of remedies di-

rected toward an improvement in the circulation by the use of cardiac tonics.

Antitoxins.—In isolated cases of diphtheria where bacteriologic methods are not opportune, the use of antitoxin is of undoubted value in differentiating pharyngeal diphtheria from follicular tonsillitis and other throat-affections. Within twenty-four hours after the injection of antitoxin, if the case be one of diphtheria, the membrane begins to separate, the faucial swelling diminishes, the temperature falls, and the general condition of the patient becomes greatly improved. The earlier we employ the antitoxin, the more apparent the results. In cryptogenetic septicemia, where differential diagnosis is so difficult in excluding typhoid fever, pernicious malaria, tuberculosis, etc., the antitoxic serum of Marmorek may prove of value. Unfortunately this antitoxin is less reliable than the antitoxin employed in diphtheria, yet when a purer and more powerful serum is obtained, better results may be expected. The antitoxins are specifics for one poison only and in this fact lies their value in diagnosis as well as treatment. In glanders, the value of mallein has not yet been perfectly demonstrated. In hydrophobia it is generally conceded that the Pasteur method is of benefit. This fact can be taken into consideration in the diagnosis of rabies. The value of tetanus antitoxin is yet unknown and for this reason we are still deprived of a suitable agent in the differential diagnosis of tetanus from other affections. Still we are justified at any time in using this antitoxin in cases of tetanus, employing in preference the dried preparation obtained from Merck.

Anesthetics.—They are employed in the detection of simulation of various kinds. It may be only necessary to carry the action of the anesthetic up to the stage of excitement. A thorough palpation of the abdomen is only possible in many cases, after complete relaxation of the abdominal parietes under an anesthetic. Hysteria is a disease which may simulate almost any affection and the detection of the malady is only possible after narcosis, when hysterical contractures, phantom tumors, and

joint-affections will often disappear. Anesthesia is often imperative in examining joints to determine the degree of impairment.

Anthelmintics.—There are many nervous phenomena such as convulsions, chorea, and epilepsy which may be caused by intestinal parasites. In all cases of doubt regarding the etiology of a neurosis, intestinal parasites should be excluded by the administration of an anthelmintic.

Antiseptics.—There are many cases of diarrhea due to bacterial intestinal infection. To the latter cause may also be attributed many constitutional affections which have been embraced under the generic term of autointoxication. This etiological factor may be eliminated or confirmed by the use of intestinal antiseptics. One of the best drugs in my opinion for correcting intestinal putrefaction is bismuth naphtholate. Similarly, toxic symptoms dependent on gastric fermentation may be determined by the use of antiseptic medication.

Arsenic.—In chorea, arsenic is regarded almost as a specific. There are a number of choreatic affections, which respond equally to arsenic. This fact will aid us in the diagnosis of many neuroses, which seem often impossible to classify. Nor must we forget, that after quinine it is one of the best antiperiodics that we possess. In those to whom quinine cannot be given, the recognition of malaria may be aided by arsenic. In excluding a tuberculous adenitis from Hodgkin's disease, we must not forget the positive value of arsenic in the latter affection.

Belladonna.—When this drug affords relief in urinary incontinence, we are in a measure justified in concluding that the incontinence depends on spasm of the bladder. The diagnostic value of atropine in ophthalmic medicine is well known.

Bromoform.—There are many spasmodic coughs in adults as well as children, which are practically cases of pertussis even though the characteristic whoop is absent. In such atypic instances, bromoform may aid us in diagnosis. While it is not a specific in pertussis, it has a decided

action on the paroxysms such as is possessed by very few drugs.

Blisters.—They are of value in diagnosis when it is necessary to secure the blood-serum for examination, as in the application of the Garrod test for uric acid in gout. The serum of blisters produced over suspected leprous patches, may contain the bacilli of leprosy. In the diagnosis of pericarditis with effusion from cardiac dilatation, blisters applied to the precordia will in some instances cause the effusion to disappear. Biggs and Park claim that the fluid obtained by blistering is the most satisfactory in carrying out the sero-diagnosis in typhoid.

Cathartics.—Constipation often conduces to certain reflex symptoms, among which we may recall languor, vertigo, cardiac palpitation, insomnia, bad dreams in women and anomalies in menstruation. Many persistent headaches owe their origin to the same cause. These reflex conditions are surprisingly cured in many instances by the use of cathartics. We must also remember, when the etiology of chlorosis is to be determined, the famous dictum of the late Sir Andrew Clark, viz., that if he were limited to the choice of one drug in the treatment of the disease, he would choose a purgative.

Cocaine.—As a local anesthetic this drug subserves a useful purpose in diagnosis. Recurring or persistent headaches, as well as a large group of neuroses, are often dependent on some abnormality in refraction, or to an improper balance between the sets of muscles which regulate the ocular movements. A solution of cocaine, sprayed on the ocular conjunctiva, paralyzes the accommodation, and will, in many instances, for the time being, ameliorate or cause to disappear, the reflex symptoms dependent on the ocular defect. For examining the background of the eye, dilatation of the pupil had better be secured by cocaine than by atropine, inasmuch as the latter paralyzes the accommodation for too long a period. Any irregularity in the dilatation of the pupil may direct attention to an old iritis. Among the reflex nasal neuroses the following may be cited: headache,

vertigo, insomnia, neuralgic affections in atypical situations (scapula, sternum, renal region), and disturbances in the visceral functions (asthma, palpitations, vomiting, etc.). If the nasal mucosa is anesthetized by cocaine, many of these neuroses will disappear, thus furnishing an invaluable aid in diagnosis. Various reflex troubles may originate from urethral irritation, especially from stricture. These reflex troubles may merely amount to pains in the perineum, abdomen, and in other remote parts, or they may constitute such affections as neurasthenia, epileptiform convulsions, etc. The urethral instillation of a solution of cocaine may prove an aid in diagnosis. Similarly, reflex rectal, uterine, vaginal, and laryngeal troubles may be determined.

Colchicum.—This is a specific palliative in acute gout. There are cases of irregular gout dependent on a so-called gouty diathesis, with a train of manifestations implicating nearly every organ of the body. Among the symptoms headache and neuralgia are frequent. It is in the irregular cases of gout that the colchicum-test should be applied, coupled with the other routine methods of treatment.

Digitalis.—This drug by slowing the action of the heart is of value in irregular action of that organ to determine the time of a murmur, should this be present. At the same time by increasing the force of the heart's action it will render cardiac murmurs more distinct, inasmuch as the intensity of the murmur is dependent on the activity of the heart. Fluid in the pericardium may be an exudation or a transudation. Digitalis by increasing diuresis will often cause the resorption of the latter, leaving the former unaffected. Resorption is noted by a diminution in the area of precordial dulness. In tachycardia, resulting from vagus-paralysis, the heart does not respond to digitalis. It is also necessary to remember in the diagnosis of valvular heart-lesions, that digitalis is of little value in aortic insufficiency, perhaps more so than in any other lesion owing to its effect in prolonging diastole, which facilitates the regurgitation of blood into the ventricle. In simple cardiac hypertrophy

digitalis will only increase the cardiac distress.

Emetics.—I have frequently determined the etiology of epileptiform convulsions in adults as well as children by the administration of an emetic. In such instances it will be observed that the unloading of the stomach will cause the attacks to cease and furnish a clue to treatment. Similarly, attacks of dyspnea (asthma dyspepticum), cardiac palpitations, and headaches of gastric origin, yield at once to an emetic. To obtain the contents of the stomach for chemic analysis in patients who will not permit the use of the stomach-tube, use can be made of an emetic, preferably apomorphine hypodermatically.

Ergot.—The action of this drug is to produce arterial anemia, and its use is suggested in the differential diagnosis of anemic and congestive affections. The latter will be ameliorated.

Iodide of Potash.—This remedy like mercury is almost diagnostic when benefit is secured from its administration in neuralgias, ulcerations, paralyses, etc., of syphilitic origin. It must be given alone and in large doses, until its physiologic action is secured. It may also be used in the diagnosis of suspected pulmonary tuberculosis, when, in apical lung-affections, dulness or modified respiration is present without râles. The latter may be artificially produced by its administration. When the cough is dry without sputa, the latter may be produced artificially for examination by its administration. To intensify the auscultatory phenomena of an old pleuritis, iodide of potash by augmenting the secretions may prove of some value. It is also used for determining the absorptive power of the stomach. The value of the iodide in the removal by resorption of hydatid cysts is determined by its use in a given case. If aspiration of the sac shows the presence of iodine, then the potash treatment will be of value, otherwise, the results will prove negative. The so-called "therapeutic test" to prove the presence of syphilis is not always accurate. This test presupposes that a person who has had syphilis bears large doses of the iodide without

inconvenience. Iodide of potash forms soluble salts with all the metals in the tissues in chronic poisoning. Therefore, when we suspect intoxication from mercury, lead, zinc, arsenic, etc., the iodide may by removing the symptoms clinch the diagnosis. Iodide of potash is almost a specific in actinomycosis. When we suspect infection of the viscera by the ray-fungus, the use of the iodide by benefiting the patient may aid us in diagnosis. Its diagnostic value can only be demonstrated when decided iodism is produced.

Ipecac.—The diagnosis of true acute dysentery can often be made by the proper administration of the drug, owing to its almost specific action in this affection. In dysentery of amebic origin, warm enemata of quinine in strength of 1 to 1000, will, by destroying the amebæ, rapidly influence the disease and assist in diagnosing the nature of the dysentery.

Iron.—The ferruginous preparations are of diagnostic value in determining the anemic origin of neuralgias, headaches, cardiac murmurs, etc. They should disappear or improve after their persistent use. In chlorosis, iron is a specific. Iron will intensify the symptoms of any affection due to plethora.

Jaborandi.—This powerful diaphoretic is usually employed in the form of its alkaloid, pilocarpine. It is not infrequent, especially in children, that a pleuritic effusion may yield the same physical signs as a pneumonia, in which case a differentiation may be necessary without having recourse to the exploratory needle. If the upper line of dulness is marked, and then a hypodermic injection of pilocarpine is given, the line of dulness on percussion will be lower after than before the injection. Pulmonary edema may be differentiated from the first stage of pneumonia and capillary bronchitis in a similar manner, the râles of the former disease often disappearing for a limited time, at least after the injection. In croupous diseases of the larynx, lungs, bronchi, kidneys, and bladder, pilocarpine is a specific. By assisting in the elimination of the false membranes, it will inform us of the character of the inflammation.

Nitroglycerin.—This drug has the same diagnostic uses as amyl nitrite, although not so fugacious as the latter in its action. In its diagnostic employment it must be carried to its physiologic action. In a few cases of aortic aneurism, where the symptoms were not pronounced, I have observed that pulsation may be induced in the aneurismal area by the use of nitroglycerin.

Opium.—This drug will relieve dyspnea produced by many painful thoracic affections. Pain arising from cerebral congestion is often intensified by opium.

Parasiticides.—There are many skin-affections of parasitic origin. The nature of such affections can always be satisfactorily determined by the application of parasiticides.

Quinine.—In the typical forms of malaria the diagnosis is always easy; but there are types of the disease in which the febrile manifestations are irregular. In the latter cases the therapeutic test of quinine is unquestioned, for the symptoms of malaria, however unusual, yield to quinine. Any intermittent fever which does not respond to quinine is not malarial. In applying the test we must be lavish with the drug, always carrying it to its physiologic effects and maintaining them for several days. In masked intermittents characterized chiefly by neuralgia or appearing under the guise of many organic affections, the therapeutic test furnishes in most instances the only safe diagnostic criterion.

Rhigolene.—The diagnostic value of freezing by means of this drug or by the use of methyl chloride is quite extensive. In reference to its use, I append the following synopsis from one of my previous contributions to this subject:*

In some cases the conventional method of freezing may be intensified by a modification, which I have denominated re-enforced freezing. The method is, briefly, as follows: With a large-barreled syringe, a sufficient quantity of distilled water is injected beneath the skin over the part to be frozen, or directly into the tissue, until an

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appreciable bulging is produced. If the spray is now directed on the protuberant part, a lump of ice is formed under the skin or in the tissues.

Re-enforced freezing will reduce the temperature of the parts contiguous to the lump of ice to the freezing-point. I have employed congelation as a means of diagnosis for the following purposes:

A. To diagnose neuralgia of central from one of peripheral origin.

B. To differentiate neuralgia from neuritis.

C. To localize the lesion in neuralgia.

D. To differentiate many neuralgic affections of the head and thoracic and abdominal parietes, from visceral disease.

The conclusions here attained with congelation in diagnosis are based on a number of clinical observations.

A

To differentiate between a neuralgia of central and one of peripheral origin is conceded to be a difficult matter. I believe, however, that by means of freezing, we possess a valuable aid in diagnosis. If a nerve, the seat of neuralgia, is frozen nearest its point of origin, the pain will disappear if the neuralgia is of peripheral origin, and persist if of central origin. In the absence of spontaneous pain, the painful points in the course of the nerve-distribution may serve as guides. Freezing is a specific for all forms of uncomplicated neuralgia. Take intercostal neuralgia by way of illustration. If the involved nerves are frozen, that is to say, the skin over the nerves at their vertebral exit, after a single application of the spray, the painful points peripheral to the vertebral column will evanesce in neuralgia, but will persist if the neuralgia is of central origin. The preceding statement is based on the fact that in neuralgia, associated with herpes zoster, the neuralgia being presumably of central origin, and produced by disease of the inter-vertebral ganglion, the painful points persist after the involved nerves at their vertebral exit are frozen.

B

To Differentiate Neuritis from Neuralgia.—Neuralgia of an accessible nerve

treated by freezing near its point of exit failing to yield to repeated applications of the spray is not a veritable neuralgia, but a neuritis, or complicated neuralgia. The foregoing statement is based in part on a carefully kept record for many years of numerous cases of occipital, intercostal, and sciatic neuralgias.

Those cases which failed to yield to successive congelation generally became chronic, having resisted all other methods of treatment. By means of re-enforced freezing many cases of presumable neuritis were cured, but the primary statement refers only to the cutaneous application of the spray.

C

As a Means of Localizing Pain.—In evidence of this thesis the following cases are cited:

Case I.—Male. In a row received many cuts on the skull. Various cicatrices resulted. He suffered from ill-defined neuralgia, located in the scalp. All the cicatrices were equally sensitive to pressure. Freezing was conducted at the exit of the occipital nerves in the neck without effect. Then the individual scars were successively frozen during a paroxysm. Pain continued until one cicatrix in the occipital region was frozen, when it ceased at once.

Excision of the latter cicatrix was recommended. Patient objected. Persistent freezing of the implicated cicatrix resulted in cure.

Case II.—Case of occipital neuralgia. Usual painful points. Freezing conducted during a painful paroxysm. When freezing was made over a particularly sensitive point the pain ceased. Palpation at this point demonstrates the presence of a little growth. Operation. Removal of a small neuroma. Pain almost gone at the time of writing.

Case III.—Neuralgia of the trigeminus (prosopalgia). Freezing during a painful paroxysm at the supra-orbital foramen, infra-orbital foramen, and mental foramen, respectively. Relief from the pain when congelation was conducted at the latter point. Examination of the teeth of the lower jaw showed the presence of a carious tooth, which, when extracted, was followed by a cure.

D

To Differentiate Many Neuralgic Affections of the Head and Thoracic and Ab-

dominal Parietes from Visceral Diseases.—It is an indubitable fact to which detailed reference, to my knowledge, has never been made, that neuralgia of the intercostal nerves may be accompanied by visceral symptoms of such prominence that the intercostal neuralgia is overlooked, and treatment is directed toward the probable visceral disease. Such cases, while presenting a varied clinical picture, are frequently analogous, if only atypically so, to gastric, cardiac, renal, vesical, and esophageal affections.

In many instances the symptoms of intercostal neuralgia in the implicated nerves corresponding to the presumably involved viscus, are either absent or incompletely pronounced. As a rule, however, vertebral tenderness corresponding to the exit of the nerves can be elicited, and when congelation is conducted over the seat of vertebral tenderness during a paroxysm, the latter is nearly always inhibited. In the absence of tenderness, congelation may be conducted for the purpose of excluding a neuralgic affection. It may be safely affirmed that tenderness of the scalp or thoracic or abdominal parietes is dependent, as a rule, not on visceral disease, but on a neuralgic affection of the cervical or dorsal nerves.

Many cases of pseudo-visceral disease can be partially explained by the anastomosis existing between the spinal and sympathetic nerves, as well as by certain concomitant symptoms of intercostal neuralgia.

In aphonia dependent on laryngitis, freezing conducted over the internal laryngeal branches of the superior laryngeal nerves in the neck at the points where they enter the larynx through the openings in the thyro-hyoid membrane, must be regarded as a specific. I have had occasion to prove this fact in a large number of cases and have observed that the restoration of the voice is immediate. The results were more pronounced in laryngitis of acute than of chronic origin. In many parasitic skin-affections, I know of no better means of cure and diagnosis, than freezing of the implicated parts. If the upper part of the

abdomen contiguous to the spleen is frozen, in most instances, we can note a reduction by percussion of that organ. If no reduction ensues, it will be useless to attempt to reduce the size of the organ by medication.

Salicylic Acid.—This drug is almost a specific in rheumatic affections, especially in the acute cases. In atypical manifestations of presumable rheumatic origin, the salicylates should always be given as a therapeutic test.

Salol.—This agent is used for determining the motor activity of the stomach. It is a compound of phenol and salicylic acid and it is only split up in an alkaline medium. Any text-book on diseases of the stomach will explain its value in the diagnosis of gastric affections. Diarrhea due to bacterial intestinal infection readily yields to salol.

Taka-Diastase.—Amylaceous dyspepsia can readily be recognized by the use of this agent. The amyolytic action of taka-diastase has been demonstrated. It is capable of converting one hundred times its weight of starch in ten minutes. When taka-diastase is administered to a dyspeptic individual in medicinal dosage and benefit accrues, we are warranted in concluding that the individual in question suffers from starch-dyspepsia and that the condition of the stomach is one of superacidity.

Thyroids.—Thyroid-feeding constitutes an invaluable diagnostic means in the recognition of all cases of myxedema, whether the disease be the true form, sporadic cretinism, or cachexia strumipriva. Sporadic cretinism occurring in infants and children is identical with the disease of adult life known as myxedema. In children in whom the disease is not typical, manifested perhaps by retarded mental and physical development, dull physiognomy, etc., the administration of thyroids practically constitutes the only means of diagnosis. It matters little what thyroid preparation is given as long as one is assured that the preparation is derived from healthy glands.

Thymol.—In the diagnosis of anchylostomiasis, this drug is of undoubted value. It is especially destructive to the parasite.

In acute anemia associated with diarrhea and colicky pains occurring in miners and brick-makers, the diagnostic application of thymol should be made.

Tuberculin.—This is a safe and invaluable diagnostic drug in the various conditions in which tuberculosis is suspected. Doubt may yet prevail regarding the therapeutic value of tuberculin, but no one with experience can doubt its diagnostic value. To find its employment necessary in the diagnosis of lung-tuberculosis is to my mind a mere acknowledgment of lack of skill in diagnosis. Its use, however, is manifold in patients with suspected tuberculosis of the joints, bone, cerebral meninges, lymph-nodes, intestines, peritoneum, pleura, etc. The characteristic reaction is a rise of pulse-rate and temperature. The absence of reaction is positive proof of the absence of tuberculosis.

Two Cases of Oophorectomy for Inoperable Breast-cancer

W. Watson Cheyne (*Brit. Med. Jour.*, 1898, 1194) reports two cases of carcinoma of the breast which being too far advanced for a radical removal of the tumor were treated by excision of the ovaries and tubes. The first patient had twice undergone operation for removal of the malignant growths, but with no permanent results. Both ovaries and tubes were removed and for four or five months marked improvement took place. The ulcer began to cicatrize, the skin to lose its induration, and the cancerous mass to decrease in size and to become more movable. Some cervical glands which at the time of operation were quite noticeable apparently disappeared. After six months, however, the growth began to increase again and the symptoms all became gradually worse. In the second case there had been no previous operation for removal of the cancer itself, but when the patient presented herself the disease was already too extensive for any hope from a radical operation. The history of the case was much the same as the other only the temporary improvement was very slight. Mr. Cheyne believes that the removal of the ovaries has an influence on the cancer-epithelium as well as the normal epithelium, but he says that unfortunately "it appears that the effect of the removal of the ovarian influence is only transitory."

T.

SELECTED PAPER

THE PONS ASINORUM OF THERAPEUTICS*

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IN the fifteenth century onë Johannes Buridan published a treatise which he called the *Summula de Dialectica* and set forth to the public that it would enable any person, however stupid, to easily and rapidly discover the "middle terms" for syllogisms. On the strength of this claim it came to be known as the *pons asinorum* or bridge for what our Colorado friends call "burros."¹ At a later date the fifth theorem of the first book of Euclid came to bear the same title, and still later the forty-seventh proposition of the same book bore this name because they enabled dull students to master otherwise very difficult problems. In modern parlance a *pons asinorum* is a bridge over a mental difficulty that enables ordinary mortals to cross. Geniuses can, of course, get over without such aid. In using it in therapeutics the writer denies any intention of intimating that there are any members of the medical profession whom he feels justified in cataloguing as belonging to the genus *Equus*, species *asinus*. We merely use it for the purpose of forcibly indicating the sad need of such a bridge at this point of medical progress. Without it we have the choice of resting entirely in a fool's paradise, taking wings and soaring with the geniuses over the muddy stream of ignorance or remaining mental grallatores floundering in the deep waters of that practically unfordable stream. It is not the first time in the history of science that such alternatives have been placed before mankind. As a rule the majority prefer to remain within the fool's paradise. The subjective method of the metaphysician is much more congenial than the experimental, objective method of getting at truth or what the world considers truth. In therapeutics we are all as anxious to discover a law of cure as were the

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alchemists to discover the elixir of life, but we of the regular school prefer the inductive, slow method of chemistry to the wild dreams of alchemy. Any pretended therapeutic law that fails to come down to the bed-rock of cause is a mere hallucination. When we can trace by cause and effect exactly how remedies produce their results, then and not till then will we have a true law of cure. We are already sufficiently far advanced to see the way in which it is likely to be found and to observe where our pons to it is being built. The caissons have already been sunk through the muddy bed of ignorance, and we shall soon see its graceful arch spanning the stream below. In this essay the author hopes to be able to show: 1. That all effective therapeutic measures are preventive ones, depending almost wholly on our ability to make a correct diagnosis. 2. That our present paucity in successful results is due to defective diagnosis. 3. That we cannot overcome this defect, so far as the great majority of medical men is concerned, until we are supplied with a binomial or trinomial nomenclature of diseases.

The therapeutic bridge we need is a scientific system of naming diseases so that the average medical man will be able to know what he is trying to get rid of by the remedies he uses. Our present lack of system is a sad hotchpotch, that if merely useless might be tolerated, but that being positively misleading should be consigned to oblivion as quickly as possible. In medical matters we stand to-day precisely where botanists and zoölogists stood before the immortal work of Linneus was accomplished. Our confusion is as great as theirs was and our gain from a similar revolution would be far greater. Now is the time for us to inquire "where we are at" and try to get order out of the awful chaos that surrounds us. If something is not done soon, we will all be constrained with Cicero to exclaim, "O dei immortales! ubinam gentium sumus?" (Ye immortal gods! where in the world are we?)²

The number of causes capable of producing bodily ailments is infinite. Fortunately there is a natural grouping by which

it is possible to place them all in a few convenient classes. Some are due to mechanical, some to chemic, and some to biologic (usually microbial) injuries. If we add to these causes those due to errors of development, we will probably have covered every possible form. In consonance with this grouping of causes there can be a corresponding grouping of effects, thus enabling us to have what we are pleased to call distinct diseases. There are in reality no such things as distinct diseases. Disease in all its protean forms is but the resultant effects of a multitude of causes, being resisted by the organism. As effects often mimic each other, it is never possible for us to be absolutely sure of the nature of any disease until we have discovered its exact causes. The first step toward a rational course of treatment is the step that leads us toward knowing what we have to treat. Until we discover that, what we happen to do is little better than blind guess-work.

To make clear our meaning consider for a moment two illustrations. Suppose we go home and find our window broken and go in search of the cause of the break. It may have been the wind, it may have been a stone, or it may have been any one of a multitude of causes. To discover that it was done with a stone does not in any way help us toward a knowledge of how to mend it. In cases of this kind a knowledge of the cause of the disease or damage does not help us to a knowledge of the remedy required. Now let us change our supposition a little. Instead of a broken window let us choose broken ice on a skating-pond. Being anxious to see that pond frozen over we look out upon it from time to time on a cold winter's day and each time discover a huge hole at the same point on its surface. We go out near it in order to discover the cause and find that it was being pelted with stones. No sooner was new ice formed than it was broken again by a large stone being thrown through it. To discover the cause in this instance is to discover how to remedy the evil. As soon as we stop the stone-throwing the break closes.

Here we have a case of cause and effect exactly like those with which physicians

have to deal. The same class of forces can operate to damage organisms as operate to damage ice, and the process of mending, healing, or curing is exactly analogous in both instances. Observe here that the mending in the one case and the curing in the other is accomplished by inherent forces. All that we can do in either instance is to remove some continuously operating cause or causes and then nature does the rest. In the case of the broken ice a cure of the evil occurs when we stop the stone-throwing. In the case of our patient the cure occurs when we stop the action of the damaging force. The ice can cure itself by freezing so fast that between the intervals of stone-throwing it becomes thick enough to resist the blow. The body can cure itself if its repairing forces work with sufficient vigor to render nugatory the attacking causes. Both the human body and the ice do their own repairing of damage always. We can only remove the obstruction and overcome the causes that hinder their inherent activities. Whenever any cause interferes with the development of a clear crystal of ice or a pure healthy body that cause must be removed or no cure is possible. Sometimes many causes may be at work simultaneously damaging the ice or damaging the body and then all of the morbid causes must be removed before nature can assert herself by a cure. At other times different damaging causes may succeed each other, the first, second, and third having disappeared and a fourth having come in to keep up the mischief. In the case of the ice a succession of stones may have been succeeded by a fire and this again by sulphuric acid. All of these may have done their share toward damaging the ice until finally a mass of salt may have been placed upon it. To cure the damage it will do no good to remove the spent stones, the extinguished fire, or the saturated acid. We must know that there is fresh salt there and remove it. Thus it is in the body. The first injurious cause may have gone when we are using remedies for it. It is necessary to know the cause now acting and seek to remove it. If we find a person be-

ing burnt we can extinguish the flames. If we find that acid has been thrown upon him we can stay its ravages by removing it or neutralizing it. When there is no longer any fire or acid present we must see that the damaging air does not affect the wound and when this is looked after we turn our attention to the invading bacteria so as to arrest their destructive work.

The kind of microbes that invade the wound may have an important bearing upon the healing of the wound. To successfully treat each case we must know the kinds that invade it. All obstructions to the proper healing of the body must be discovered and a way found for their removal, otherwise we will continually keep failing to cure our patients. Where we do not know the causes we can not hope to be able to always remove them. An accidental discovery may in some cases give us a method, but as a rule we must grope in the dark until the causes have been discovered. In the majority of such cases we leave the matter to nature and then take to ourselves the credit of doing the work. We speak of some remedies as "almost specifics," because they succeed in a large proportion of cases and in a way that leaves no doubt of their efficiency. The writer believes that where such remedies fail other causes than the one thought responsible are at the bottom of the failure. If we knew how to overcome these unknown causes that lead to failure we would be successful every time. When we give quinine in malaria, mercury in syphilis, and serums in their respective diseases, their failure is due to the presence of causes that they were never intended to treat. All successful medication is preventive medication. Prophylaxis is the very soul of cure in every form of sickness. When we give quinine we kill the plasmodiums and prevent a new attack of the malaria. When we give diphtheria antitoxin we produce conditions unfavorable to the Klebs-Loeffler bacillus and so prevent a continued attack of the diphtheria. When we give a cathartic we force toxic substances out of the body and prevent auto-intoxication. When we can not get at the root of a disease we are content to

attack and prevent the evil consequences likely to flow from some dangerous symptom. By thus being able to, as it were, lop off the tentacles of the disease we often cripple or destroy it as a dangerous enemy of the patient. Where sleeplessness is leading toward death, by the use of sulphonal or morphine we prevent this much of the disease from developing. We obviate the serious outcome. The deeper down our prophylactic measures can be carried among the bad symptoms the more likely are we to save our patients. To know how to prevent a tetanic spasm is not as good as to know how to antidote the poison of tetanus; but it is well to be able to accomplish the lesser feat when for any reason we can not do the greater. There is no breach in continuity between sanitation and treatment. The aim and method of the one are the aim and method of the other. The method of each is summed up in one word "prevent." To give drugs for any other purpose than the preventing of untoward effects is foolish. Beneficial symptoms should be let alone or encouraged. It is therefore important for the physician to be able to tell what symptoms of a disease are beneficial and what damaging. Grave blunders are committed by not knowing which to encourage, which to let alone, and which to oppose.

The one important duty of the physician always is to fight or remove everything that he is sure is leading his patient toward a disastrous termination of the disease. He must at all times be on the alert for causes of evil and in their succession the deeper he can go the better will be his results in all kinds of cases. Skill in diagnosis is imperative, whether the inquiry relates to a baneful symptom or a specific cause. To give remedies that have been recommended for diphtheria, pneumonia, nephritis, mumps, or measles because we have concluded that these are the ailments from which our patients suffer may by a sheer lucky hit be what they need, but the chances are very many against us in the matter. Superficial diagnosis, that knows no more about these diseases than is implied in the ability to give them these

names, is wholly inadequate as an aid to proper treatment. Much more must be known, and the idea that disease is an entity, which our present nomenclature fosters, must be destroyed. An examination of the present trend of bacteriologic discovery will help us to a clearer conception of what is here meant and perhaps illuminate the subject in a number of important directions.

Let us for a moment consider the bearings of the fact that adaptation is a fundamental law of life. A study of the distribution of plants and animals throughout the globe shows us that the leading factor in placing them where we find them has been fitness. Water-plants and water-animals cannot live in dry places, while plants and animals able to live in dry places cannot, as a rule, thrive well in wet places. The same is true for extremes of heat and cold, richness and poverty of soil, sunlight and shade, windiness and calm, with all other extremes of telluric conditions. Between the extremes of adaptation are all possible intermediate degrees. The range, too, of all plants and animals varies widely in extent in every environment. Some have a very wide range and others are restricted. What is true of the gross fauna and flora of the earth is equally true of the microscopic. The latter, like the former, develop vigorously where adapted, not at all where wholly unadapted, and with intermediate degrees of vigor amid intermediate degrees of fitness. Microbes that are classed as non-pathogenic are such as are unable to spread to a damaging degree within the tissues of the body or such as are unable to produce poisonous substances within the body to its detriment. Pathogenic microbes produce poisonous substances or multiply within the body in a way that is injurious to it. They bear a similar relation to the body that weeds do to a garden. While there may be parts of the body that can resist their development, other parts are more favorable to them, permitting of their development. A given microbe may be able to develop in the lungs, but not in the spleen. Another may find a favorable place of development in

certain glands, but be unable to multiply in the meninges. To some extent there is certainly reason to believe that most tissues have some degree of protection from some forms of disease-germs. To hold, however, as many have done in the past and as some seem to do now, that but one kind of disease-microbe is capable of developing in the kidneys, another in the brain, another in the spleen, another in the liver, another in the bones, another in the heart, another in the lungs, etc., seems extremely absurd.

The final settlement of the question regarding which microbes are capable of developing to a dangerous extent in the lungs and which in the liver or other organ must be arrived at by actual experiment. Analogy and probability seem now to lead to the conclusion that there are many pathogenic microbes capable of development in dangerous numbers in any one of all the tissues and organs of the body if they can only gain access to the same in any manner. It does not seem reasonable to think that nature should have given a monopoly of the lungs to some one kind of coccus, of Peyer's patches to a single kind of bacillus, or of the liver or intestines to a single kind of spirillum. It is much more reasonable to believe that soil that will grow one kind of plant is likely to be able to grow many kinds. It would, indeed, be a singular plot of ground that, while containing many patches of differing soils, could only grow one solitary kind of plant on each kind of soil. Imagine if you can such a plot. In it the potato-corner could grow neither peas, onions, weeds, nor other plants; the pea-patch could grow nothing but peas, and the onion-region would be an inhospitable home for anything but onions. Is not such a supposition absurd on its face? And yet it is no more absurd than the assumption that meningitis is due to but one kind of microbe which by diligent search is going to be discovered some day. Is it not much more reasonable to think that there are twenty or more kinds of germs capable of producing meningitis? To us it would not be at all surprising if future investigation should show that there are twenty or more kinds of pneumonia, hepa-

titis, meningitis, cystitis, enteritis, tonsillitis, carditis, gastritis, nephritis, etc. Is it not also quite reasonable to suppose that the cause of the pathologic condition in any one of these may be the cause in many of them. In other words, may not the nephritis of one patient have the same specific cause as the meningitis of another, the pneumonia of another, and the carditis of another? If more than one kind can develop in the same region at the same time may not two or more kinds of microbes combine at various times to produce conditions of disease very like those produced by only one? Again, as microbes are known to have a sort of succession among themselves, may it not be possible that in some diseases the latter symptoms are due to a different set of germs from those at the beginning? All of these questions can only be finally answered by an appeal to nature.

Now let us inquire about the facts in the case as developed by bacteriologic investigation up to the present time. Dr. Kanthack, the pathologist of St. Bartholomew's Hospital, London, in Allbut's System of Medicine says that "undoubtedly the same morbid lesion may be produced by several different micro-organisms." "Strictly speaking, then, there is no specific organism of infective endocarditis; any one of a number of cocci may produce a disease, bacteriologically different from, but anatomically, pathologically, and clinically identical with, that produced by another member of the same group of organisms. Similarly, suppuration may be produced by any one of a large number of bacteria; and in the malady clinically recognized as erysipelas, instead of the streptococcus of erysipelas, other organisms may often be found. Septicemia and pyemia, again, may be produced by more than one kind of bacterium, and the same applies to pneumonia."⁸ To these words there is no uncertain sound, although the author of them still clings to the belief that some kinds of germs are specific. It is always in regions of ignorance that old expiring notions take their final refuge. There are diseases of which we know little that may appear to possess the old quality known as specific and that

we will have to consider such till we know more about them. Phthisis pulmonalis was at one time deemed a specific disease, but Koch's discovery of the tubercle bacillus showed it to be but a single form of tuberculosis. We now know that there are tuberculosis of the lungs, tuberculosis of the brain, tuberculosis of the skin, tuberculosis of the bones, and tuberculosis of almost every part of the body. If we consider the group of symptoms, including the lesions, as the disease, then there can be no such specific disease as tuberculosis. It is only by claiming that the presence of the bacillus gives it a specific character that we are able to maintain such a position, but that would make every disease specific in a similar sense.

Dr. S. Flexner tells us that phthisis pulmonalis, or a disease with all of its symptoms, exists, in which there are no tubercle bacilli. In it we find a streptothrix instead.⁴ Prof. Edgar M. Crookshank has pointed out that many of the lesions of actinomycosis and those of tuberculosis are alike.⁵ Dr. Karowski, of Berlin, says the early stages of actinomycosis and of tuberculous phthisis require a bacteriologic examination to be sure of their difference.⁶ Dr. A. Gouget reports a pseudo-tuberculosis of the spleen, liver, kidneys, and other organs due to a streptobacillus and not to Koch's bacillus.⁷ On the other hand, Dr. J. W. Moore tells us that the tubercle bacillus can cause pneumonia.⁸ With this last-named, so-called disease we have abundant evidence to show that it has a multitude of causes. In the paper of Dr. Moore we learn that pneumonia is caused by the microbes of erysipelas, influenza, typhoid fever, tuberculosis, diphtheria, and anthrax. Dr. Peter, of Paris, sustains this claim of there being an erysipelas of the lungs that we class as pneumonia.⁹ Drs. Flexner and Anderson have also shown that diphtheria of the lungs is a pneumonia.¹⁰ Wright and Stokes reported that in nineteen cases of bronchopneumonia the diphtheria bacillus was present.¹¹ Constanzo Zenoni reports cases of pneumonia due to a streptococcus.¹² Flügge gives Friedlander's bacillus as a

common cause of pneumonia.¹³ Dr. Moore gives evidence that typhoid fever of the lungs is pneumonia. He holds that in such cases the bacillus of Eberth gains entrance through the lungs as the initial lesion of the disease.¹⁴ Whitelegge tells us that Friedlander's micrococcus, Fraenkel's diplococcus, and Klein's bacillus have all been, on apparently conclusive evidence, established as causes of pneumonia.¹⁵ Palamidessi, of Florence, reports cases of pneumonia from a micro-organism which resembles that of fowl-cholera and which was imported with parrots.¹⁶

It is apparent from the evidence now in our possession that typhoid fever is as protean in its forms as is tuberculosis or pneumonia. A number of cases have been studied that give evidence of the power of the typhoid germ to attack the body through various channels when there are no evidences of intestinal lesions. Dr. Keen reports cases of meningitis, pleurisy, goiter, hepatitis, pneumonia, and other affections occurring as sequels of typhoid fever, and others as occurring when there were no typhoid lesions in the intestines, but the typhoid germs were present in the organs affected.¹⁷ An editorial note in the *Medical Press* reports five cases of typhoid infection without typhoid lesions.¹⁸ Dr. Taty describes a case of melancholia with mental alienation of a double form due to typhoid germs.¹⁹ Drs. Flexner and Harris describe experiments and cases of typhoid infection without typhoid lesions.²⁰ These authors also quote the evidence of DuCazal,²¹ Kühnau,²² Guinon,²³ Pick,²⁴ and especially Chiari and Krous,²⁵ as bearing in the same direction. Keen mentions the fact that pure typhoid cultures have been prepared from points of suppuration in many parts of the body.²⁶ The same author refers to cases of mumps as due to the typhoid infection²⁷ and of diseases of the bones as having the same cause.²⁸ Gasser describes a case of orchitis due to typhoid infection,²⁹ and Girode gives evidence of epididymitis having occurred from the same cause.³⁰ DuCazal and others have secured pure cultures of the typhoid bacillus from the spleen when there were no

intestinal lesions.³¹ In this connection it is interesting to learn that in a case of Dr. R. D. Mason's where the patient had swallowed some lemon-seeds and they had sprouted in the intestines, the symptoms produced were like those of typhoid fever.³² We thus learn that other things than the typhoid germs produce the characteristic symptoms of typhoid fever, and that the typhoid germs sometimes produce symptoms not at all characteristic of typhoid fever as usually recognized.

If we turn next to as apparently specific a disease as gonorrhea, every physician knows the danger to the eyes of the newborn by infection with the coccus of this filthy affection, and now Dr. F. R. Hagner tells us that he has found cases of arthritis and tenosynovitis giving cultures of gonococcus.³³

In catarrhal conjunctivitis, Dr. Gifford found that in an epidemic in Omaha, Neb., and surrounding country Fraenkel's pneumococcus was the cause, while in another in New York which he had had experience with, a wholly different microbe was the cause.³⁴

The discovery of the Klebs-Loeffler bacillus and the study of its characteristics have within a short time completely altered our conceptions concerning diphtheria. Now there are cases, which a few years ago would not have been considered as even related to diphtheria, that are classed with that disease, and a number of anginal affections that we called diphtheria are now excluded from such recognition.³⁵ Dr. W. P. Herringham, of St. Bartholomew's Hospital, London, says that "it must be remembered that membranes, produced by other bacteria besides the diphtheria bacilli, may appear in the throat, and that in many cases the clinical phenomena prove to be of but little assistance; a careful bacteriologic examination is therefore required."³⁶ Anders tells us that "diphtheria may exhibit a number of variations as regards the seat of attack and the severity of the poisoning." He mentions nasal diphtheria, wound-diphtheria of lips, tongue, vulva, or glans penis, laryngeal diphtheria, etc.³⁷ S. Gee refers to latent diphtheria, in which

the poisoning occurs without the appearance of a membrane of any kind.³⁸

Turning now to meningitis, we learn from the last report of the Massachusetts State Board of Health that in ten cases examined they found it due to the pneumococcus, in eight cases to streptococcus, in twelve cases to tubercle bacilli, and in one case to anthrax.³⁹ Dr. J. A. Ormerod says that in some cases of purulent meningitis there has been found a micrococcus, in others the ordinary *Streptococcus pyogenes*, and where the meningitis occurs "in connection with some acute infectious disease, such as typhoid, the organism proper to that disease."⁴⁰ If we next consider endocarditis we find the same state of affairs. Dr. Julius Dreschfeld, Professor of Medicine in Owens College, Victoria University, tells us that in most cases of this disease only one kind of organism was found in each case, but that they vary in kind for different cases. The organisms that have been found in this disease have been in some cases *Streptococcus pyogenes*, in others streptococcus of erysipelas, in still others *Staphylococcus pyogenes aureus*, and thus through different cases were found the pneumococcus of Fraenkel, the pneumobacillus of Friedlander, the typhoid bacillus, the bacillus of tuberculosis, the bacillus of diphtheria, the gonococcus, the *Bacillus endocarditis griseus*, the *Micrococcus endocarditis rugatus*, the *Bacillus endocarditis capsulatus*, the *Bacillus immobilis et foetidus*, the bacillus of Gilbert and Lion, and a few other microbes with less definite character.⁴¹

Some of the names in this formidable list indicate the discoverer's idea that there was but one microbe of endocarditis. This antiquated notion is a vestige of demonology, which taught that every disease was an entity due to one simple cause, and that cause a demon or ghost obsessing the patient. The deeper we study the more clear the evidence becomes that no absolute specific character belongs to any disease. Many causes can produce symptoms in common, and as the sums of symptoms constitute the disease, we may expect to find no lines of demarcation in which

disease does not merge with disease. There are specific causes for every diseased condition and the knowledge of these causes is what we need, to be able to treat them successfully. Dr. Stephen Mackenzie, in his presidential address in the Section of Medicine of the British Medical Association, at its Montreal meeting, expressed this idea in the following words: "Until the exact nature of disease is fully understood, a truly scientific treatment is manifestly impossible."⁴² But now the question arises as to how we are going to reach an exact knowledge of diseases as long as we continue using a nomenclature that is a source of daily deception and misunderstanding? Nomenclature is the mental tool of every diagnosis. Imagine our trying to study botany without our present nomenclature. Professor Allbutt, of the University of Cambridge, in the introduction to his "System of Medicine" has, we are quite certain, made the one error of that ably edited set of volumes when he throws the weight of his great influence against the naming of diseases by a system of nomenclature analogous to that used in botany and zoölogy.⁴³ Does he propose to have us forever remain without names to indicate those "groups of certain degrees of constancy" among symptoms? If the grouping and exciting causes are united in a double or triple name all of Professor Allbutt's objections disappear at once. We are already drifting naturally toward it. We can not avoid it if we desire to. No man is strong enough to stay the current for very long. Any system of naming diseases by a single name will perpetuate the wholly false notion that a disease is a something like an entity. The single name and the demon-notion were conceived together and will by association always suggest something of each other. A new system that would not only do away with that suggestive association, but that would also force the mind toward a knowledge of the congeries of symptoms would check the very tendency which Dr. Allbutt fears. In the names "typhoid pneumonia" and "tuberculous meningitis" we have already developed the germ of a truly scien-

tific nomenclature. Let us agree to make the existing cause or causes, as soon as known, the generic name of the disease and the lesion or primary seat of the infection the specific name. As our knowledge grows more profound we will be able to group the causes into families if we desire to do so, but at present it is unnecessary.

It is a pity that our bacteriologists have not yet discovered the specific causes of such common diseases as measles, scarlet fever, and smallpox. They should have been among the first properly named, but as it is they could only be named provisionally. As soon as we hear of diphtheria pneumonitis, typhoid pneumonitis, erysipulous pneumonitis, streptococcus pneumonitis, diplococcus pneumonitis, etc., we naturally form a mental image of an inflammation of the lungs due to the general cause which the generic title indicates.

With a pliable nomenclature such as this we can have not only diphtheria or diphtheritic pneumonitis, but we can have diphtheritic meningitis, diphtheritic hepatitis, diphtheritic cystitis, diphtheritic nephritis, diphtheritic carditis, diphtheritic enteritis, etc. In the same manner we can have with typhoid pneumonitis all such combinations as typhoid meningitis, typhoid cystitis, typhoid enteritis, typhoid hepatitis, typhoid gastritis, typhoid carditis, typhoid nephritis, etc. Should we discover that in some form of typhoid infection the skin was the chief lesion, we would call it typhoid dermatitis, and if the blood should be found the chief seat of the disease we could call it typhoid hemocytolysis. In case there is no particular localization of the damage, a general name could be supplied to express this idea, and where two, three, or more distinct points of infection exist simultaneously this too could be expressed in a name. Where the specific microbe has a double or triple name these would have to be united and shortened, about as chemists shorten long organic chemic names. *Ameba coli* enteritis might be shortened into the name *amcol* enteritis. In this way the binominal system could be maintained for all ordinary affections and a trinominal kept for varie-

ties. We already know that there are varieties of cholera answering to various kinds of spirilla and varieties of malarial affections due to different kinds of plasmodia. In such cases a triple naming would be a better means of telling the cause. As soon as such a system of naming diseases has become current it is but a short step to a corresponding system of analysis as applied to symptoms for the discovery of causes.

No effort has ever yet been made to classify symptoms in a scientific manner so as to aid the physician in making his inductions. As there is really but one disease, varying with the cause or causes and with the extent and location of the lesions, symptoms naturally arrange themselves in interblending groups. There are symptoms common to every disease, symptoms common to large groups of related diseases, symptoms common to small groups of diseases, and symptoms that belong to a single disease. Without a proper system of naming diseases their proper grouping is impossible. Correct the former and we can soon have the latter. With a proper nomenclature we can soon tabulate the symptoms as they appear. First we can find the most general ones that every form of disease manifests as soon as it has reached a certain degree of intensity. Next we can get a list of the symptoms common to the large groups, then to the small ones and finally to the single ones. The last-named symptoms, if correctly gathered, will tell the exciting cause, and when it is found, treatment is simplified to its utmost.—

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Action of Peronin on Coughs

In an interesting communication made to the Medical Society of Geneva, A. Mayor (*Méd. moderne*, IX, p. 449) stated that peronin, in doses of from 0.02 to 0.04 gme. (1-3 to 2-3 grn.) two or three times daily, exerts a very favorable action on the cough of pulmonary tuberculosis and chronic bronchitis, and of whooping-cough. It neither causes perspiration, nor disturbs the digestive organs. As to its activity, it occupies a place midway between morphine and codeine. F.

Treatment of Aneurism of the Arch of the Aorta

B. M. Ricketts concludes a paper on the above subject with the following summary (*Jour. Amer. Med. Assn.*, Aug. 13, 1898):

1. The remedy lies within the domain of surgery.
2. There are but two such methods at the present time to be considered: (a) Obstruction of the right subclavian and common carotid arteries; (b) introduction of wire or needles into the sac, with or without galvanism.
3. Either one or both of the operations should be applied in all cases after a thorough saturation with the iodides.
4. Ligation is attended by less danger, less mortality, greater and more permanent and universal benefit.
5. Ligation of the subclavian and common carotid arteries is less dangerous than ligation of the innominate.
- In point of fact, the latter should not be done.
6. The iodides should always precede and follow any surgical interference.
7. Extreme atheroma might contraindicate ligation.
8. Extreme atheroma might possibly indicate the introduction of needles or wire, with or without galvanism.
9. Atheroma to some degree is present in the majority of arch aneurisms.
10. It is impossible to technically classify arch-aneurisms. R.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Landry's Paralysis

Mills and Spiller reach the following conclusions on the subject (*Jour. of Nerv. and Men. Dis.*, June, 1898):

1. There is a form of ascending flaccid paralysis, with little disturbance of sensation, with normal electrical reactions and without involvement of the sphincters, and this is of rapid course, usually terminating in death.

2. Other cases differ from this type by one or more atypical signs and transitional forms occur, which make the diagnosis between Landry's paralysis, polyneuritis, and myelitis, difficult.

3. It is possible that in some cases no lesions exist, but many of the reports of such cases date from a time when the methods of examination were very imperfect, or it may be that in these cases the lesions are in an early stage of development, the patient succumbing to toxemia before demonstrable changes in the nervous system take place.

4. Landry's paralysis may be due to myelitis alone.

5. In Landry's paralysis polyneuritis may be present, but changes in the cell-bodies of the anterior horns will also usually be found in such cases by Nissl's stain, and it is sometimes difficult to say whether the cellular changes are primary or secondary.

6. It is probable, in some cases at least, that the entire peripheral motor neuron is attacked at the same time by the poison of the disease.

R.

Alcoholic Dilatation of the Heart

According to the observations of F. Tresilion (*Edin. Med. Jour.*, Vol. XLV, No. 6, p. 616) two conditions chiefly arise from excessive consumption of alcohol spread over a long period of time—one, of dilatation of the heart, which may occur fairly suddenly, the other, habitual and constant rapidity of the action of the heart, *i. e.*, tachycardia. In both of these conditions there is an enfeeblement of the heart-muscles, shown by the weakness of the systole, but in the latter form the condition would appear to be mostly one of faulty innervation. From the general proneness of peripheral nerves, rather than their central ganglia or muscles, to be affected by toxic

influences, more especially alcoholic, there is a potent reason for thinking that the tachycardia may be due to alcoholic neuritis of the cardiac plexuses or peripheral cardiac ganglia. No evidence is forthcoming to show any muscular affection. These points are exemplified by the author citing several cases in detail. As to treatment, more especially the acute cases with heart-failure, repeated small doses of calomel or blue pill and colocynth, followed by saline purgatives, are of great value. Benefit is also derived from the prolonged use of nuxvomica or strychnine with ammonia and capsicum, and, if needed, digitalis, strophanthus, and caffeine.

L.

Growth of Cilium beneath the Skin of the Lid

Dr. George Y. Gould (*Annals of Ophthalm.*, Vol. VII, No. 2) reports the following case: A patient complained of quivering of the lid of one eye and of a tiny tumor near the margin. Accurate observation showed that a cilium was growing beneath the skin of the upper lid, turned back upon itself and dissecting up the skin a little and giving the appearance of a small blot about 2 mm. wide, 3 mm. high, and 4 mm long. The lash could be plainly seen beneath the skin, raising the latter by the elastic power of the hair, abnormally curved upon itself.

G.

Oxygenated Water in Vomiting of Pregnancy and in Tuberculosis

Bul. général de Thérap. (Vol. 135, No. 11) contains a contribution by Paul Gallois and Bonnel, to the Paris Therapeutical Society on this subject. They cite Hayem and Pinard as authority for inhalation of oxygen in vomiting of pregnancy, but object that its use is limited to the rich or to the hospital cases. The preparation used is the ten-volume solution of peroxide of hydrogen which contains a little hydrochloric acid from the manufacture. A tablespoonful of this is added to a quart of water and taken as a drink, alone, or with wine during meals. Teaspoonful doses are inefficient; but it hardly ever fails, in the above method of administration, at the end of two or three days after commencing its use, to control the vomiting. When it apparently failed, it was found the patient was either taking too small a quantity or taking an unsuitable preparation. On stopping its use the vomiting returned; and it was immediately checked again on resuming the preparation. It was useless in troubles of gastric origin and served to differentiate these from the vomiting of pregnancy. But, tuberculous subjects who vomited while coughing, were

relieved as effectually. "The tuberculous subject coughs because he eats and he vomits because he coughs." In these cases appetite seems also to be improved. Seven cases of tubercular character with this troublesome kind of vomiting are cited as having responded at once or within three days to this oxygenated water so that the distressing vomiting was checked and appetite and well-being improved.

How does this preparation accomplish its end in these cases? *A priori* we are tempted to explain it on the principle of Rivière's potion, viz., the liberation of gas in the stomach, which phenomenon we know goes on in this case. But, it is not likely the benefit is due to the mechanical separation of gases, as in the above case, or to the taking of Selters water, for the beneficial effects are felt immediately in those cases and in the taking of champagne. Whereas, in this treatment, benefit is usually perceived only after the lapse of twenty-four or forty-eight hours. Or, is the benefit due to the presence of the small percentage of hydrochloric acid contained? That would not explain the parallel benefit from inhalations of oxygen gas in vomiting of pregnancy where the action seems to be on the general nutrition. It may be a neutralization of the toxic properties of some ptomaine. We know that choline changed to oxycholine is rendered innocuous.

H.

The Action of Diphtheria Toxin on the Nervous System

In the *Giornale della R. Accademia di Medicina di Torino* (Vol. 61, p. 77), E. Luisada and D. Pacchioni report the results of a number of experiments on dogs with the diphtheria toxin. Their results are substantially as follows:

1. The diphtheria toxins applied directly to the nervous system provoke a profound lesion at the point of application, characterized by an inflammatory and degenerative action.

2. These lesions are propagated more or less extensively from the point of application.

3. In non-immunized dogs, which had been injected by a dose sufficiently toxic, the phenomena of local reaction were noted.

4. In immunized dogs the toxins constantly produced alterations in the central nervous system, intense, localized, but of less extent than those produced in dogs non-immunized.

5. The toxin applied directly to the medulla is propagated rapidly in all directions, preferring the posterior columns, the gray matter, and the central canal as routes. In

consequence of the bulbar invasion, death occurred in the animals more rapidly when the toxins were introduced into the medulla than when applied to any other portion of the cerebro-spinal axis. When the toxins were introduced into the cerebral cortex, characteristic lesions of these regions were manifested. Death occurred later, through propagation of the poison to the medulla.

6. Toxins introduced into the sheath of the sciatic nerve provoked an inflammatory process more or less intense, but more circumscribed than in the central nervous system. From the nerves the poison ascended to the medulla, chiefly through the posterior columns, and thus provoked an ascending myelitis.

The lesions produced upon the neuroglia by the direct action of the toxins are similar to those reported by Vassale, Donaggio, and others in the various intoxications and infective processes. In the oblongata the prevalent alterations are found in the crossed pyramidal tracts and posterior columns.

8. The alterations produced by the toxins affect the nerve-fibers more than any other part of the nervous tissue. These lesions affect principally the myelin, and consist of a physical modification of it, whereby the connections between the various nerves are lost. There is partially a chemical modification of the myelin also present.

9. The local action of the toxins has much importance in the genesis of various paralyzes as seen in the human family attacking first the sheaths of the nerves, then the nerves, and then later the nerve-centers of the medulla.

J.

The Histopathology of Trachoma

After fruitless researches extending through a number of years during which the microbe described by Koch, Sattler, and others and declared by them to be the cause of trachoma, could not be found, Dr. Adolf Alt (*Am. Jour. Ophthalm.*, Vol. XV, No. 4, 1898) details his experiments conducted after Dr. L. Bremer's method of blood-examination by differential staining. Dr. Alt used the same method in smearing out freshly squeezed trachoma-granules and follicles in follicular conjunctivitis, both those lying superficially, or, in old cases, those buried in the depth of the tissue. This fresh material was smeared out between two slides and allowed to dry in the air. Some slides were then stained without any further procedure; some were hardened in formal, in alcohol, in alcohol and ether, or in boiling alcohol and ether, and some were heated to from 120° to 140° after Ehrlich's

method; most of the slides were simply drawn a few times through an alcohol-flame before staining; these different methods did not seem to alter materially the results. As staining-materials a great variety of aniline dyes were used, of which the best were the differential stains composed of several colors, e. g., Dr. L. Bremer's methylene-blue-eosine mixture, next to which that used in Aldehoff's method and the hemotoxyline and eosine mixture were found most effective. For photographing Bismarck brown was most useful.

Upon examining any one of these specimens "a perfect chaos of threads and round cells" was found. The threads took up the staining-material like nuclei which undergo a regressive metamorphosis; many of these threads were connected with large bodies which were frequently larger and some even much larger than the nuclei of the epithelial cells of the conjunctiva. These bodies varied extremely in form, being round, oval, spindle-, pear-, or club-shaped, while others again had totally irregular outlines. The larger they were, the less staining-material they took up. The more diaphanous, sago-like the granule, the more of these threads and bodies, either attached to them or lying loosely around, were found; Dr. Alt believes that this material consists of nuclei which have undergone a mucoid degeneration. Next to these threads a large number of round or oval cells of varying size were found; these were quite small or they were as large or larger than the nuclei of the epithelial cells of the conjunctiva, in which single aniline dyes and thionin made visible one, two, three, sometimes even four small, eccentrically situated round bodies, like nucleoli. Double staining proved the vast majority of the round cells composing the granule to be lymphocytes.

During an investigation Dr. Alt came upon an immense cell with a large pale nucleus, in the protoplasm of which were imbedded smaller and larger bodies which were in part very deeply stained; while these bodies seemed sometimes to lie imbedded in the granular protoplasm of such a cell, in others they were surrounded by a clear space. In other similar cells clear spaces seemed to indicate where such bodies had formerly been enclosed. These peculiar cells the author believes are more frequent in recent than in older granules; they are rare in some specimens, in others extremely numerous. The bodies imbedded in these cells appear with some stains like round bodies with a piece eaten out, while with other stains it becomes clear

that they are mostly spherical, or nearly so, but that only a smaller or larger portion of them, which is sometimes semilunar or band-like in shape, sometimes round like a nucleus, takes on a deep stain, while the remainder is much more lightly colored. Sometimes there are a few of these bodies to such a cell, sometimes their number is such that they cannot be counted. The author believes that these cells play an important rôle in the histopathology of trachoma, that possibly in the bodies which they contain we may find an organism which is the cause of the trachoma-granule. The cells and bodies described were found also in follicular conjunctivitis. G.

Adenoids as an Etiological Factor in Orthopedic Deformities

Several cases of beginning deformities have recently presented themselves to F. S. Coolidge, Chicago (*Medicine*, Vol IV, No. 7, p. 560), in which it was at once evident that either adenoid vegetations were present or else, although outgrown, had left behind them the mouth-breathing habit and the usual facial deformity of mouth-breathers. None of the seven cases reported was of simple definite type with fixed and well-known causes, as deformity following cerebral or spinal paralysis, or as congenital club-foot, but all were of the complex type often roughly referred to as possibly from some nerve-irritation. Several theories are brought forward to the effect that adenoids may have some connection with orthopedic deformities, the most important being that adenoids may cause such a lowering of the general nervous vitality that they may be considered almost the direct cause of some of the atypical orthopedic deformities. From the results of adenoids as listed by L. Browne, the writer believes that the bridge from such nervous manifestations to those expressed by such deformities as are described in the paper must be a short one. L.

A Biological Characteristic Differential between Eberth's Bacillus and the Coli Bacillus

Thoinot and Brouardel have established (*La Semaine méd.*, No. 16, 1898, p. 126) that the manner in which the coli bacillus and the bacillus of Eberth react in media containing varying proportions of arsenious acid, constitutes an excellent means of differential diagnosis.

The bacillus of Eberth does not develop in media, especially peptonized bouillon, containing one-hundredth per cent. of arsenious acid, nor does it sprout after suc-

cessive cultures on media containing at first very feeble proportions of it gradually increased. This is verified for all the bacilli of Eberth, whatever their source.

The coli bacillus, on the contrary, sprouts always in a cluster in bouillon containing $1\frac{1}{2}$ per cent. of arsenious acid, sometimes even in 2-per-cent. media. This fact favors the plurality of the coli bacillus and the unity of the bacillus of typhoid fever.

The coli bacillus may be accustomed to growth on media of arsenious acid until it will grow in preparations containing as much as 3 per cent.

This biological reaction, with many others, constitutes a very important differential characteristic.

The manner of reaction of the para-coli bacilli is very variable. Some are very sensitive to arsenious acid; some act like the ordinary coli bacilli. Bacilli from psittacosis, from septicemia of veal, from purulent gathering in the neck and from the mouth, were studied and showed, the first gave a reaction like that of Eberth's bacillus, the last like that of the coli bacillus.

H.

Treatment of Angina Pectoris and Palpitation

Dr. B. Kinnear (*Med. Rec.*, July 16, 1898) says that in his opinion angina pectoris is due to a simple hyperemia of the spinal sensory centers. The cold surface of the body during the attacks denotes hypermia of the sympathetic ganglia, therefore constriction of the general circulation; and the treatment must be such that the blood will be expelled from these centers and distributed normally throughout the body. Such treatment the author has found in the application of an ice-bag over the spine. A spinal ice-bag from the fourth dorsal to the third lumbar vertebra, applied once or twice a day for from forty minutes to an hour, will not only relieve the attacks, but will completely eradicate the trouble. The success of amyl nitrite is also undoubtedly due to its dilating action upon the capillaries of the whole body, expanding also the contracted coronary vessels of the heart, and thus restoring strength to the organ by supplying the normal circulation to its muscles. Another remedy which the author recommends very highly is oxygen by inhalation. When properly diluted with another gas of lighter specific gravity, oxygen is readily absorbed by the pulmonary capillaries; after it enters the circulation it first dilates the coronary arteries, then every arteriole in the body and in the extremities, thus withdrawing the excess of

blood from the sympathetic ganglia and cerebro-spinal nerve-centers. (Oxygen alone will relieve an attack of angina; but in combination with cold over the spine and heat to the extremities it is the speediest method of relief at our command. The most efficient formula for administering oxygen is the one now in use in the London Oxygen Hospital; it consists of two parts of pure oxygen, one part of nitrous monoxide (laughing-gas), and one per cent. of ozone, to keep the mixture fresh when in the cylinder. The author says that injurious and not beneficial results will follow the use of oxygen gas, unless it be wholly freed from chlorine and other deleterious gases always present in commercial oxygen. The administration of oxygen is easy: turn the stopcock, compress the nostrils, place the tube in the mouth, and after complete expiration let the patient inhale as deeply as possible, hold the inspired gas as long as he comfortably can, and then exhale slowly through the nasal passages. Two inhalations three times a day, taken standing and before meals, with an interval of two minutes between the inhalations, are sufficient for the daily treatment of cases of angina pectoris; but during an attack the tube should be placed in one of the nostrils, the gas turned on from the cylinder, and the patient allowed to inhale the gas with the respiratory movements, and thus continue until the attack is entirely over. The treatment of cardiac palpitation—whether due to overwork, anxiety, or abuse of tea, coffee, tobacco, or alcohol—is practically the same as that outlined above for the treatment of angina pectoris.

R.

Leprosy

Dr. E. Baelz (*Berl. klin. Woch.*, Vol. XXXV, Nos. 46, 47) believes that leprosy is contagious only after a very intimate and long-continued intercourse. The cause of the small degree of contagiousness is due to the fact that the greatest number of lepers are free from ulcerous processes, and the bacilli are therefore well protected under the skin. Autoinfection within the body takes place, the author thinks, by dissemination of the bacilli through the muscular system. Among the more important symptoms of leprosy, the author enumerates the peculiar wax-like glitter of the skin and the thickening of the nerve-stems, exaggeration of the tendon-reflexes. The nervous auricularis magnus is often found to be as thick as a lead-pencil. If a leprosy body be rubbed with a powder of fuchsin methyl-violet, then covered closely with absorbent

cotton, and pilocarpin injected into the patient, then the healthy perspiring skin is found to be colored, but not the leprous non-perspiring spots. Fever and general symptoms are often absent. Tenderness on pressure over the nerves is rarely met with. The author's method of treatment consists of:

(1) Local treatment with a 20-per-cent. salicylic-acid salve. This is applied over the diseased spots after having been rubbed with pumice-stone.

(2) Administration of large doses of oleum gynocardiae, 15 gme. a day.

(3) Strong mineral-baths, 45-53° C., from three to five baths a day for a period of about one month. S.

The Mosquito-malaria Theory

Patrick Manson (*Brit. Med. Jour.*, 1898, 1574) submits an article which is a precursor of Surgeon-Major Ronald Ross's work on the question as to whether malaria is transmitted by the mosquito. The detailed account of this valuable treatise will appear as a report to the Indian Government. Dr. Manson says that Ross "is now thoroughly convinced that the mosquito-malaria theory is sound and that he has proved it;" also that Ross has authorized him to state the general drift of his conclusions, which are as follows:

"1. Pigmented cells are found in the stomach-wall of gray mosquitoes fed on crows, larks, and sparrows with proteosoma.

"2. Pigmented cells are not found in control, gray mosquitoes on healthy men, or men with crescent plasmodia; on healthy sparrows, crows, and larks, or on crows and pigeons with halteridium.

"3. These pigmented cells are found in the external coat of the stomach, and grow from a size of 6 microns in 30 hours to 60 microns at six days and are probably coccidia.

"4. Successive feeds by the same mosquito on the same bird, are followed by fresh crops of young coccidia.

"5. Similar pigmented cells have been found in mosquitoes fed on human gymnosporidia (Labbé)." T.

Appendicitis-intoxication

L. Rénon gives the history of an instructive case of appendicitis in *Le Bul. méd.* (No. 45, June 5, 1898, p. 541). He says: "Human appendicitis is a toxi-infectious disease." Prof. Dieulafoy first showed the microbic migration through the segment of appendix transformed into a closed cavity.

In his slides we can observe the coli bacilli colonizing so to speak through the walls into the peritoneum without perforation of the appendix. In the free part of the appendicular canal the walls present no trace of this migration. Hartmann and Mignot have established the increased virulence of the Bacterium coli in this enclosed portion of appendix. Dieulafoy and Caussade have confirmed this fact and have added another of greater importance, viz., that filtrates of cultures of microbes from the free part of this closed end of the appendix injected into guinea-pigs demonstrate high toxicity. If appendicitis is an infection, then it is also often a poisoning, which the following case illustrates:

M. X., 33 years of age, was four years ago suddenly attacked with severe pain at MacBurney's point, vomiting, and muscular rigidity to touch over the right flank. Pulse was 96, temperature 38.2 C. (100.7° F.). Recovery ensued in eight days. Two years later occasional attacks of pain were experienced in the same location. The patient refused operation. In December, 1897, patient consulted Dr. Rénon again for pleurisy on his left side. On January 22, 1898, patient was again seized with violent pains in the abdomen; but, to avoid calling Dr. Rénon, who, he knew, would advise operation, he left his house, on foot and in carriage, at times when he needed to be in bed and resting. Finally the pains became intolerable accompanied by incessant vomiting. A hypodermic of morphine at night did not remove tenderness at MacBurney's point next morning, when axillary temperature was 37.1 C. (99° F.) and pulse 80. The face and limbs were already somewhat violet. M. Routier confirmed diagnosis and advised operation next morning (January 24). A painful cough was noticed next morning without auscultatory signs. The abdomen was very tender, following hiccough and vomiting of green vomit during the night. The patient had eight very liquid and fetid stools since the preceding night. Temperature was 37.2 C. (99° F.), pulse 80, irregular and intermittent. Facies was peritonitic, hollow-eyed, nose pinched, color bluish. At 4 o'clock the operation was performed. By this time the patient's face was still bluer, respiration was difficult and the removal in a carriage was accompanied by syncope. Chloroforming was difficult. Pus escaped from the iliac fossa on opening the peritoneum. The intestines were red and had lost their glistening appearance. The appendix was already resected, the resected portion being constricted in three places, corresponding to

three severe attacks and was open at the small end discharging pus. Next day temperature did not rise above 37.3 and the pulse varied from 89 to 90 and was weak and irregular. Respiration was difficult. The next night the patient was worse than on the one following the operation, vomiting black vomit and having attacks of suffocation. Next day (January 26) his body was quite cyanosed, temperature 37.5 C. (99.5° F.), pulse 160, thready, almost too rapid and faint to count. Patient died at 3 P. M. with bulbar symptoms of cyanosis and asphyxia in syncope.

The cause of death was general intoxication of the organism with bulbar predominance, characterized by cyanosis, irregularities of pulse, and syncopic attacks such as are found in other intoxications, microbial and others. This case well illustrates the kind of pathogenic process in the closed cavity which causes the attacks. The cavities were separated from each other by fibrous tissue dividing it into four compartments. It also illustrates how little the temperature is a guide to the seriousness of the condition. H.

Treatment with Prostatic Gland

Dr. Oraison reports seven cases of prostatic hypertrophy with retention, which he treated with a preparation of the prostatic gland (*Gaz. degli Ospedali*, May 19, 1898). The dried and powdered gland was given in pill form—from 3 to 12 grn. daily—or a glycerin-extract in doses of from 2½ to 7 dr. daily. Of the seven cases five were cured, one was greatly improved, and in one there was no result. R.

The Enanthem of German Measles

F. Forschheimer, Cincinnati (*Pediatrics*, Vol. VI, No. 1, p. 4), before the American Pediatric Society, described as characteristic an enanthem of a macular, distinctly rose-red eruption upon the velum of the palate and the uvula, extending to but not on to the hard palate. The spots are irregularly arranged, not crescentic, are the size of large pinheads, and are very little elevated above the level of the mucous membrane. The writer studied the eruption in twenty-two cases, and has been led to believe it must be present in all cases. In no case has he seen the exanthem when there was not present a suggestion of the enanthem. The enanthem is short-lived, fading away within the first twenty-four hours. It is the same eruption found upon the skin, characterized by the size of efflorescence, its arrangement, the absence

of great infiltration, and above all, by its pinky rose-red color, almost similar to the roseola of typhoid fever. During the process of involution there are sometimes pigmented deposits, usually of a yellowish or yellowish-brown, either in the form of spots or streaks. That this enanthem is distinctive can be shown by comparison with the enanthem of both scarlatina and measles. In scarlatina it appears from twelve to twenty-four hours before the eruption on the pillars of the fauces in the form of the characteristic puncta, rapidly spreading over the mouth in the form of a scarlet-red coalescing eruption, which finally ends in desquamation, producing the strawberry tongue and lasting well into the second week of the disease. In measles the enanthem begins upon the soft palate from thirty-six to forty-eight hours before the exanthem, in the form of purplish or bluish papulæ, arranged crescentically, and extends over the cheeks, accompanied by the blue tongue. It is at its maximum with the beginning of the eruption, and may take as long as three or four days to disappear. The writer stated in conclusion that these studies were made in one epidemic only, and their verification must rest with the study of other epidemics before they can be accepted as belonging to all cases of rubella, under all circumstances. L.

Pathology of the Ganglion-cells

O. Juliusberger and E. Meyer (*Monatsch. f. Psych. und Neur.*, Vol. III, p. 316) conclude from a number of cases that the changes which occur in the chromophilic elements of the ganglion-cells in various nervous affections are quantitative rather than qualitative, varying only in intensity and not characteristic of any one type of disease. To them the so-called "reaction at a distance" and "primary lesions" are undistinguishable, the changes in the chromophilic bodies being simply altered nutritive changes. According to the authors these bodies are capable of being reformed after a time of disappearance. J.

The Differential Diagnosis of Ulcerative Diseases of the Pharynx and Larynx

After considering briefly the clinical picture presented in each of the various diseases attended with ulceration, J. S. Gibb (*Medicine*, Vol. IV, No. 1, p. 21) culls out the points most distinctive of each. The gummy tumor, regarded as the precursor of syphilis, perhaps the most common, makes its appearance in the pharynx and larynx as a reddish mass, very soon to ap-

pear grayish in the center, slightly elevated above the surrounding tissues. In many instances but a brief period exists from the appearance of the gummy tumor to its breaking down and ulceration. In the pharynx the most common site of ulceration is the posterolateral walls, rapidly spreading to the soft palate, and vice versa. The tonsils also are a very common site. Pharyngeal ulceration rarely extends to the nasopharynx and never to the larynx. Laryngeal ulceration never extends also to the pharynx, these peculiarities constituting a very important diagnostic feature, totally unlike that of carcinoma. The appearance of the deep syphilitic ulcer is in many ways characteristic, being clear-cut and deep, covered with thick yellow pus and threads of necrotic tissue. An areola surrounds the ulcer and its edges are indurated. The tendency of these ulcers is to disfiguring cicatrization, and in the laryngeal cavity the cicatrization and contraction may be so great as to encroach seriously upon its lumen, necessitating tracheotomy, or bands may form, demanding division. Tuberculosis, another cause of ulceration in the pharynx and larynx, is, according to the writer, exceedingly rare, the few cases that have come to his notice being complicated with other evidences of tuberculosis, usually pulmonary. The appearance which the pharynx presents when it is the seat of tuberculosis is as follows: the mucous membrane is exceedingly pale and covered by a viscid, tenacious mucus; the ulcer is on a level with the surrounding tissues and does not present a punched-out or deep appearance, nor are the edges clear-cut. Primary laryngeal tuberculosis, though rare, is much more common than the same disease in the pharynx, and is prone to attack the interarytenoid space and the base of the arytenoid cartilages; the ulceration presents the same appearance as in the pharynx. The voice is peculiar, being hoarse and sometimes aphonic.

Carcinoma of the pharynx and larynx usually runs a rapid course, attended with the characteristic lancinating pains, constant and often intolerable. As regards the fauces, there is, coincident with pain during deglutition, a stiffness of the angle of the jaw; an intense, boring, ever-present pain in the ear is often the chief complaint. The tonsil, the most frequent starting-point, at first presents a dark-red appearance, with a grayish-white spot in the center; the surrounding tissues on the affected side are hyperemic; it subsequently exceeds the confines of the tonsil and rapidly spreads over the surrounding tissue in a cauliflower-

like manner. Carcinoma of the larynx is more frequent than the pharyngeal disease, and the location within a concealed cavity renders an accurate diagnosis in the early stages extremely difficult. When the symptoms are grouped together and all phases of the case are considered, in the majority of cases no insuperable difficulty in diagnosis will be encountered. Laryngoscopic examination reveals the site and position of the growth; later, the growth breaks down, an ulcer filled with necrotic tissue and giving forth an offensive odor resulting.

L.

Vascular Reflexes in the Brain

M. Patrizi (*Rivista Sperimentale di Freniatria*, Vol. XXIII, pt. 3) presents a most elaborate and careful article, historical as well as experimental. The conclusions reached are (1) The reflexes of the blood-vessels in man follow the fundamental principles of localization and extension observed for other reflexes. (2) The localized vascular reflex is more direct than the radiated vascular reflex. (3) The influence of the cerebrum over the spinal centers is manifest in the matter of the vascular reflexes. (4) The time for the vessel-reflex for sensitive stimuli is three seconds for the arm and five seconds for the leg. (5) The reflex for the cerebral vessels for sensory stimulation has a latency not less than the arm-reflex for the same stimulus. (6) During sleep vessel-reflex action is retarded, diminishing from the center towards the periphery, and not appreciable in the lower leg. (7) During sleep the movements of the blood in the brain, following stimuli are probably active and self-regulating reflexes. (8) In the limbs the vascular reflex for sensorial stimuli and for psychic stimuli requires about four seconds longer than reflexes for sensitive stimuli. (9) Each sense stimulated gives its own vascular reaction. (10) Some sensorial stimuli provoke vasomotor reactions with greater force than others.

J.

Tuberculous Cirrhosis of the Liver

Dr. J. I. Johnston (*Pa. Med. Jour.*, June, 1898) considers tuberculous cirrhosis of the liver to be a distinct condition, presenting at times a fairly distinct symptomatology, the symptoms being those of atrophic cirrhosis, accompanied by evidence of primary tubercular infection elsewhere. Age and history are important. The size and character of the effusion are the most diagnostic features. When the effusion is large, careful tapping or laparotomy, if co-existing intestinal adhesions are suspected, is the only

treatment that will prolong life; otherwise the condition is incurable. Infection from tubercular pyo-salpinx may cause general tuberculosis of the abdominal viscera and peritoneum by contiguity.

The writer gives the history of a case, which he contrasts with one reported by Duke and one reported by Morrison, both of which recovered; but theirs were of alcoholic origin, while his was tubercular.

The Tongue as a Clinical Guide in Disease

A recent number of the *Indian Med. Recorder* says that a broad, pallid tongue, with a loaded base, bespeaks atony, and a want of action of the entire viscera below. The remedial agents would be cathartics and tonics, especially those mild and effectual in character.

A shrunken tongue, pinched in expression, indicates functional inactivity of digestion, and requires great care in choice of food as well as quantity. In this condition of tongue we have atony also. It is the tongue of advanced fevers, inflammations of the mucous membranes, and want of assimilation, hence the necessity of great caution both of remedies and food. Cathartics are contraindicated, but mild aperients may be carefully used.

A contracted pointed tongue, with dryness and dark fur, is the usual tongue of typhoid fever and other low grades of fevers, when all thinking minds would use great care in the treatment and food.

The dryness or moisture of the tongue denotes the extent of the disease of the intestines, and will point us in that direction.

A fissured tongue points to the kidneys, either an inflammation or something wrong with secretion.

Yellow coatings are usually associated with morbid liver and want of biliary secretions, and would indicate mild hepatics and tonics.

Raised papillæ, bright-red, are signs of irritation of ganglionic nerves and of the stomach, especially the mucous coating, and indicate exhaustion; or absence of digestive power. The treatment is rest, nux vomica 20 drops, warm food taken in small quantities, bismuth and pepsin after food.

Broad, thick tongue, papillæ not visible, but looking raw, denotes a septic condition of the blood, and favors typhoid fever. If deep-red, sulphuric acid is indicated, if pale sulphite of soda. The food should be liquid, sipped warm, in small quantities.

Deep, dark-red tongue with dark coating indicates septic condition of the blood.

Shades of dark brown and black denote typhoid condition, or sepsis.

Pale, dirty fur on tongue denotes acidity, and a septic condition of system; and sulphite of soda is indicated; but if membranes are deep-red, sulphuric acid will be admissible, because it would show an alkaline condition of the blood.

Contracted, pointed tongue, which cannot hold still, and is drawn to one side of the mouth, denotes something wrong with the nerves, and perhaps the brain.

Dry tongue always denotes feverishness or inflammatory condition, or something wrong with the nerve-centers or ganglia.

Thick tongue, with edges curved upward, denotes atony of the nerve-centers or ganglia, requiring stimulants, nux vomica, or strychnine and quinine.

Pointed, narrow tongue is the tongue of sluggish condition of digestion and assimilation, and congestion, especially of the base of the brain. Restlessness and constant change of position are usually present.

S.

The Intracellular Roots of the Gall-duct System, as Demonstrated by Natural Injection, and the Icteric Necrosis of the Liver-cells

From experimental work upon animals, following upon previously described findings in liver-cells of man, G. Fütterer, Chicago (*Medicine*, Vol. IV, No. 7, p. 557), arrives at the following conclusions:

1. The roots of the bile-duct system are inside of the liver-cells, as intraprotoplasmic channels, which form complicated networks, and which closely surround the nucleus.

2. An intranuclear system of bile-channels communicating with the intraprotoplasmic channels does not seem to exist.

3. The intraprotoplasmic channels are in direct communication with the bile-capillaries.

4. Under normal conditions the intraprotoplasmic channels are not visible, and if stagnation of bile distends them and makes them visible as network, this happens at the cost of the protoplasm and the life of the cells.

5. While the protoplasm under such conditions perishes very quickly, the form and structure of the nucleus remain intact for a long period.

6. The bile is secreted in the form of minute drops, which first appear around the nucleus.

7. The terms, bile-ducts, bile-capillaries, and bile-channels should now be used.

L.

SURGERY

GEORGE B. WOOD, M.D.
HEBER N. HOOPLE, M.D.

VINCENT GOMEZ, M.D.

Increase of Intradural Pressure in Head-injuries

In drawing attention to the fact that an apparent increase of the intracranial pressure occurs in severe injuries of the head, W. N. Bullard (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 12, p. 271) states that further observation and investigation has only served to confirm the views expressed several years ago, that the determination of the advisability of operation in which no external signs exist, depends largely on the apparent degree of the intracranial pressure. That the latter does exist is shown by the fact that in most cases of operation there is found a marked tension of the dura, with pulsation of the brain absent or much diminished, and that on cutting or opening the dura, this tension is diminished while the pulsation is proportionally increased. Formerly, increase of intradural pressure after injury to the head was supposed to be due to pressure from a blood-clot. In some cases this is practically so, but there are numerous cases in which the intracranial pressure occurs in connection with head-injury in which no blood-clot exists. To differentiate between the two cannot always be done, as a third and frequent cause is apparently a congestion or filling of the intracranial blood-vessels.

L.

Protrusion and Perforation of the Umbilicus in Ascites

Dr. Ehret (*Brit. Med. Jour.*) discusses protrusion and perforation of the umbilicus occurring in connection with obstructive ascites. The protrusion may be more or less rounded, or even pear-shaped. Perforation is uncommon. The author gives details of three cases, and adds another in which death was due to uncontrollable hemorrhage from the protruded umbilicus. In one of these cases perforation took place on four or five different occasions, and the patient was still living. In another the patient was alive and free from ascites a year after the perforation. In the remaining case the patient died some three years after the perforation.

The rupture took place in all the cases either where tapping was declined or when the patient was not under treatment. In three cases there was primary hepatic disease, and in the fourth heart-disease. The

protrusion may occur where there is no congenital widening of the congenital ring. If a hernial sac is present the protrusion occurs earlier and more readily, and becomes larger. In two cases only fluid was present, and in the third bowel and omentum as well. In cases with previous inguinal hernia the fluid presses back the bowel, if not adherent from the sac. Thus strangulation occurs in these cases much more readily at the umbilicus than at the inguinal canal. If intestine is present in the protrusion, tapping must be done with caution, the prolapsed bowel being pushed back and held there.

In one of the author's cases the protrusion was described as big as a child's head. In two of the cases, after tapping, the whole fist could be introduced through the dilated umbilical ring. The perforation appears to be due to hemorrhage into the tissues, which then give way. After the rupture complete closing takes place. This rapid closing prevents infection. If the ascites collects anew, rupture may again take place unless prevented by tapping. S.

External Urethrotomy: Some of the Indications for and Methods of Operating

Dr. J. D. Thomas says in a paper with the above title (*Pennsylvania Med. Jour.*, March, 1898):

When there is no obstruction to the introduction of a grooved staff the operation is simple and can be quickly done. An incision beginning back of the scrotum and carried in the line of the raphe to within one-half or three-fourths inch of the anus is made. The skin, superficial and deep layers of fasciæ are first incised, when the accelerator urinæ muscle comes into view. This a rather fleshy muscle, and when it is reached the groove of the sound should be located with the nail of the left index-finger, and a knife with a double edge at the point should be thrust into the groove with precision. If the knife does not enter the groove in the staff on the first attempt the fibers of the muscle fall together, so that when the following attempts are made to strike the groove the muscle is minced to that degree. After the point of the knife has entered the staff, the incision in the urethra can be enlarged to the extent desired by sweeping the point of the knife along the groove in the staff. If it be desired to introduce the finger into the bladder, a grooved director is passed along the staff into the bladder, the staff being now removed, and the floor of the urethra, in the

direction of the bladder, incised, with the director as a guide. If necessary, the bladder may be then flushed with any solution desired. If the operation is undertaken for a tight stricture, a filiform is first passed into the bladder, then over this a tunneled instrument is passed until it presses against the face of the stricture. The incision in the perineum is now made on to the end of the tunneled instrument, when the black filiform comes into view. The incision follows this as a guide until the stricture is split. The grooved director may now be introduced and the operation proceeded with as indicated above.

Sometimes cases are met with where it is impossible to introduce an instrument into the bladder to serve as a guide. This condition is encountered where the urethra has been lacerated or torn off by traumatism; occasionally from stricture due to gonorrhea.

In these cases a sound as large as can be introduced is passed down against the stricture and an incision made through the perineum on to this. A better instrument for this purpose is Wheelhouse's staff. The incision is made into the groove on the end of this instrument, which is then turned around, in situ, and the upper end of the wound is caught with the little knob on the distal end, which is at an angle with the shaft. A ligature—artery-clips will answer—is now placed on either side at the bottom of the wound, and by making traction on these three the finding of the urethra is facilitated. Where the stricture is due to gonorrhea the continuity of the urethra is not disturbed, and the urethral canal may be traced along toward the bladder. When the inability to pass a filiform is due to a rupture of the urethra, or when it is torn off, the distal portion of the urethra is very difficult to find. If it can not be found readily, rather than make mince-meat of the perineal tissues and subject the patient to prolonged anesthesia, it is better surgery—and the proceedings can be conducted with precision—to do a suprapubic cystotomy and find the posterior portion of the urethra by retro-catheterization. With one sound passed through the meatus externus, the other through the bladder and meatus internus, the torn urethra is brought into apposition without destructive dissection, when it may be sutured if desired, and an opening made into the bladder through the perineum farther back. The author condemns the use of a drainage-tube or a permanent soft-rubber catheter after the operation. He says: In the first place it is painful for the patient; second, it

requires a good deal of care on the part of the attendant; third, the drainage-tube soon becomes filthy, and the packing becomes saturated with urine, which undergoes decomposition, thus necessitating frequent change, with its accompanying pain; fourth, when the catheter is tied in, a urethritis is sure to be set up. The author places the patient in bed with a rubber urinal under him, irrigates the urethra three times a day with Thiersch's solution, while the perineal wound is kept clean and irrigated with 1,4000 bichloride-solution. The urine for the first two days is continually passing through the wound, and thus there is an automatic flushing of the wound with an aseptic and antiseptic (?Ed.) solution, which the urine is. The patient is absolutely comfortable; convalescence is rapid, the patient sometimes leaving the hospital perfectly sound in two weeks after the operation.

R.

Tracheotomy and Intubation

Dr. E. W. Saunders (*St. Louis Med. Gaz.*, June, 1898), while preferring intubation, in most cases recommends tracheotomy when there is (1) laryngo-spasm, (2) tracheal pseudo-membrane, (3) faucial pseudo-membrane, (4) a moribund condition, (5) recurrent stenosis after intubation. If the physician is not skilled in intubation he had better be prepared for tracheotomy as an instant alternative. The author does tracheotomy as follows: The patient is placed in the upright position; thus breathing is unimpeded, light falls into the incision to the best advantage, the blood flows downward away from the wound and it does not so readily enter the trachea.

After transfixing and cutting the fold of skin, plunge the sharp hook into the trachea, thus facilitating the dissection which is to follow. Introduce the hairpin upward; it serves as a dilator, draws the trachea upward and steadies it. Then introduce the forceps downward toward the bifurcation and seize the false membrane before it breaks off above. Then when the oozing has ceased introduce the tube and withdraw the hairpin.

G.

The Treatment of Fracture of the Femur in Infants and Children

An apparatus for the treatment of fracture of the femur in infants and children is presented by T. Dunham, New York (*Phila. Med. Jour.*, Vol. I, No. 17, p. 740). Flannel bandages, plaster bandages, two pieces of suitably bent, flat iron, and stout twine or marline are the materials

entering into it. To apply it, the thigh is semiflexed and a flannel spica is put about the upper part of the thigh and pelvis. Over this is placed a spica of plaster bandages. A similar splint is applied to the leg from the roots of the toes to the spine of the tibia. The irons should be so bent that one may be attached to the plaster spica over the groin and run along the front of the thigh, while the other may be attached to the front of the plaster on the leg and run up in front of the knee and overlap the first iron along the front of the thigh. These irons are readily attached to the plaster splints and absolute rigidity secured by plaster-of-Paris fixation. While attaching the irons, the limb should be so held that the thigh is straight and without rotary deformity, and the hip and knee semiflexed. When the plaster has firmly set, extension should be made and while so maintained the irons should be rigidly lashed together by making a sailor's seizing. While the splint is now complete in the case of infants, the writer recommends in addition the use of coaptation-splints for older children. The advantages of the apparatus are summed up under two heads: first, its efficacy in controlling the fractured bone; and secondly, the well-being of the patient while under treatment. The position of the limb is such as to relax the thigh-muscles to the utmost, so that traction exerts its maximum effect on the bone. After a week the lashing should be removed and the irons again lashed while extension is made—to take up slack from wasting and adaptation of the soft parts to the splint. The thigh is, furthermore, always open to inspection. When there is tilting upward of the upper fragment, it is only necessary to give the irons a sharper bend. This will elevate the lower fragment in such a way as to be more naturally in line with the upper fragment.

L.

Prostatectomy by Combined Suprapubic and Perineal Methods

An example of the striking benefits which in a certain number of instances follow the operation of suprapubic prostatectomy, and which may be hoped for in a fair proportion of cases, is offered by F. S. Watson (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 18, p. 423), the patient, aged 54 years, experiencing symptoms of prostatic obstruction, dysuria, and frequent urination, for four years previous to operation. An attempt to relieve an attack of acute retention of urine was fruitless, resulting in a severe hematuria, probably due to a false passage, the hemorrhage con-

tinuing periodically up to the time of operation, pyuria also intervening. Examination by rectum showed a large bilateral hypertrophy of the prostate. In order to make the bladder more accessible the fascia covering the abdominal muscles was exposed by a crescentic incision extending from one anterior superior spinous process to the other, with its convexity towards the upper margin of the symphysis pubis. An external perineal urethrotomy was performed, at a later stage of the sitting, to provide for subsequent drainage and also to bring the prostatic lobes better within reach from within the bladder by pushing them upward from below by the finger-tip inserted in the perineal wound. A large fibroid growth of the left lobe was enucleated, its measurements being—length two and a half, breadth two, and thickness one and a half inches respectively. A Cabot bladder-tampon was packed into the space left by the removal of the tumor, the lower string being carried out through the perineal wound. The perineal wound closed at the end of a month, and the suprapubic superficial abdominal wound in six weeks, the suprapubic bladder-wound closing on the fourteenth day, voluntary urination being re-established at once, the stream being full and projected with force.

L.

An Extraordinary Case of Foreign Body in the Lung

The following case reported by Dr. Barbot (*Med. Rec.*, Vol. LIV, p. 172) has such unusual features connected with it, that it will be read with more than ordinary interest. Fourteen years ago, the patient, then 7 years old, while eating cherries, suddenly aspirated a cherry-stone into the trachea. This caused a violent fit of coughing, but the stone was not expelled. It did not cause him much distress until one day, a week after the accident, while sitting quietly, he was taken with a violent fit of coughing and expectorated a large quantity of muco-pus, streaked with blood. During the next two months the patient's temperature varied from normal to 100° F. in the morning to 100-104° F. in the afternoon. Pulse was rapid and there was considerable dyspnea. There were frequent coughing-spells with expectoration of muco-pus of a horrible odor. Rapid loss of flesh and profuse night-sweats followed. After two months the symptoms suddenly subsided and the patient convalesced rapidly. No further symptoms were noted until exactly a year later, when he had several hemorrhages from the lung. At precisely the same period every year for fourteen years these

hemorrhages took place. The last ones occurred in March, 1897. They were more profuse and occurred as often as four times in one day. He was advised to have his lung radiographed and if the position of the foreign body could be determined, to have it removed by surgical means. Accordingly a radiograph of the chest was taken, the patient being exposed for twenty minutes; one week later another exposure was made, lasting twenty-five minutes. After the first exposure, the hemorrhages stopped and the patient began to improve rapidly. Several days after the exposure, a violent dermatitis developed on the chest, which lasted six weeks and was accompanied by considerable pain and a good deal of secretion. Medication had no effect on the dermatitis, but the general improvement which followed the X-ray burn was little short of wonderful. Ever since the beginning of his trouble, the patient had been unable to lie on his left side. This inability stopped immediately and he can lie in any position without inconvenience. His chest expanded and he is now able to put his lungs to the most severe test. In November, 1897, while lying in bed he was seized with a sudden fit of coughing and raised a solid mass of tissue about as large as a hazel-nut, which on close examination proved to contain the long-lost cherry-stone. No further trouble has been experienced since then.

R.

When Should a Transverse Fracture of the Patella be Treated by Wiring?

Treatment (Vol. I, No. 22) has an article by Peyton T. B. Beale, in which he states that wiring by the open method for transverse fracture of the patella has taken its place among the recognized operations of surgery. He reflects upon methods which, at best, can only result in fibrous or aponeurotic union. He sees no greater risk in opening a healthy knee-joint than in opening any other normal cavity of the body; but he admits that infection by pyogenic organisms would here be more serious than in other parts of the body.

Assuming the fracture to be due to indirect violence, that is, the forcible and sudden contraction of the quadriceps extensor when the leg is flexed upon the thigh, the joint is healthy at time of fracture, unless it was suffering from disease when the break occurred.

The actual fracture of the patella leads to effusion of blood into the joint which, acting like a foreign body, causes the earliest stage of inflammation in the synovial membrane—dilatation of the arterioles, in-

creased flow of blood followed by slackened flow of blood and stasis with exudation of leucocytes—all occurring within twelve hours after the fracture. The amount of distension of the joint roughly indicates the time likely to be required for absorption of this effused blood and the severity of this disturbance. The usual time is from two days to two weeks. He leaves the question open as to whether or not the tissue in this earliest stage of inflammation is best able to withstand the onslaught of pyogenic organisms. He quotes Cheyne: "In the first stage of inflammation the vital activity of the tissue is suspended—the functions of the part are, so to speak, paralyzed; in other words, the tissue has become an extremely weak tissue and one unable to resist in any way the entrance of the parasites." He thinks this argument applies to the condition when the blood-flow is slackened, but may not to that in which it is accelerated and is accompanied by increased exudation of plasma to wash away organisms that might gain access, though plasma, on the other hand, might serve as a pabulum for organisms.

The inflammation set up by the fracture followed by flow of blood into the synovial sack, consists of three parts:

1. Dilatation of vessels and increased blood-flow.
2. Slackening of the rate of blood-flow.
3. Stasis and exudation.

In these conditions it would be unsafe to operate. The third condition is probably most favorable for absorption of the effused blood, after which the synovial membrane returns to its normal healthy state and may even do so before all blood is absorbed. The joint may then be safely opened. To operate safely immediately after the fracture has occurred there must be two conditions: blood has not begun to be effused and no direct violence has been applied to the part. But, in the great majority of cases suitable for wiring, the operation should not be performed for some time after the fracture occurs.

The operation, performed aseptically, may be safely done at any age and is the only certain method of securing bony union.

H.

Racemose Aneurism

At the *Gesellschaft (Med. Press and Circ., Vol. CXVI, No. 12, p. 30)*, Hitchmann showed a patient with a racemose aneurism affecting the internal coverings of the brain, producing neuritis and atrophy of the optic nerve, with neuralgia of the infra-orbital.

There were revealed two arteries, one on either side of the forehead, lying like a quill on the surface, and extending up to the crown of the head, forming convoluted branches. The pulsations were synchronous with those of the radial artery, while those of the vessels on the posterior area of the head were rhythmical, without apparent dilatation. The retinal artery was greatly shrunken and pulseless. There was no atheroma of the vessels nor previous history of injury to the head. The disease commenced about two years ago with rhythmical sounds in the right ear, and severe painful attacks of neuralgia on the right lower jaw. No headache, no vomiting, or vertigo.

Removal of Rhinolith with After-treatment

Dr. William H. Poole, of Detroit, reports in the *New York Medical Journal* (July 9, 1898) the removal of a large, unusually situated rhinolith from the nose of a young lady aged 24 years. For ten years she had been treated by a leading rhinologist with considerable benefit, but for the last two or three years she suffered from a profuse nasal discharge, thickened and increasingly offensive in character, with obstruction to nasal respiration, loss of smell, nasal voice, and the usual symptoms of an aggravated case of chronic rhinitis. Lately she suffered from headache that was increasing in severity. An operation for the removal of the hypertrophied tissue of the lower turbinal, which was impinging on the floor of the nose, was undertaken. Soon after the patient reached home headache began, with retching followed by profuse hemorrhage from the seat of operation. Styptics had no effect and it was only arrested by tamponing with a sponge-tent through the posterior nares. Some days after, the sponge was removed piecemeal, but the last piece was so firmly lodged that it could not be removed except with great force and under anesthesia.

After the patient recovered from the anesthetic he cleansed the nasal cavity thoroughly with hydrozone, one part to twelve parts of lukewarm water, and she returned home rejoicing, the turbinal wound being in good condition, healing nicely.

Next morning she came to his office for treatment and stated she had enjoyed perfect freedom in breathing through that nostril until about four o'clock in the morning, when, changing her position in bed, that side became suddenly obstructed. After cleansing the nostril, which was seemingly full of an offensive discharge, he discovered

a large rhinolith attached at the posterior end on the outer side of the inferior meatus, lying in a sort of groove or pocket.

The anterior or loose end of it was sharp like a spiculum of bone, and black; it was freely movable about its long axis, so that you could pass a cotton holder around it and lift it from its bed. After cocainizing, Dr. Poole grasped it with a dressing-forceps and, giving it a twist, removed it. He then thoroughly cleansed and disinfected the cavity with the hydrozone solution, which removed the odor and rendered the cavity wholesome.

The next day the two smaller pieces were removed while cleansing and treating the nose. They were loose and seemed as though they had just scaled off from the bed where the larger piece had lain.

The spraying of the nasal cavity with hydrozone, followed by the use of glycozone, constituted the treatment for the next four days, by which time the offensive odor had entirely disappeared, and the parts had assumed a healthy condition.

This concretion formed on the outer side of the inferior meatus, and as it grew larger it obstructed the flow of tears through the nasolacrimal canal, as evidenced by the overflow of tears from the left eye, which condition ceased immediately after removal of the rhinolith.

Microscopical examination revealed that it was composed of amorphous phosphates, undoubtedly the phosphates of calcium and sodium, which came from the tears.

There has been a marked improvement in the young lady's condition since the removal of the rhinolith; overflowing of the tears in the left eye has ceased, nasal respiration has become perfect, her voice has lost the nasal twang, and her general health has improved rapidly, as indicated by the fact that she gained four pounds in weight within four weeks and was still improving when he reported the case.

Treatment of Tuberculous Lymphadenitis

D'Arcy Power, in (*Treatment* (Vol. I, No. 22, p. 516), emphasizes the new importance attached to removal of diseased lymphatic glands. He refers to Teale's advocacy of this in Allbutt's "System of Medicine," the removal to be effected before the skin has been spoiled by advancing suppuration. The least scar will result if neither stitches nor drainage tube is used. This can be done if the glands are subcutaneous. If they are submuscular, drainage-tube and stitches must both be used. Many small incisions are better than one large one where there

are many glands. Suppurating cavities should be thoroughly scraped, after the affected gland is thoroughly removed under ether. This treatment applies to caseous glands as well as to suppurating glands.

Simple inflammatory enlargement should always be promptly dealt with. Enlarged and unhealthy tonsils should be incised, post-nasal adenoid growths removed, otitis media efficiently treated, and all neighboring sources of irritation removed. Hygienic measures should be emphasized. If these means fail to reduce, surgical treatment should follow.

Three conditions may be found in which tuberculous lymphatic glands should be removed:

(a) Superficial tissues healthy and glands firm and movable, or but slightly adherent.

(b) Superficial tissues healthy, but glands matted and perhaps some of them caseated or softened.

(c) Subcutaneous abscess. Skin over it healthy, or thinned, stretched, and bluish. The first is most favorable for operation. The gland being removed entire and bleeding stopped, pack with sterilized gauze or cotton till sutures are inserted. The gauze is then removed and the sutures closed. In case of suppuration, drainage-tube should be used for forty-eight hours, or until suppuration is checked.

Miller, of Royal Infirmary, Edinburgh, summarizes his views thus:

1. Glandular enlargement has always a cause which should be sought for, and removed if possible.

2. If the cause be not removed, the enlargement will persist, and much persistence may give occasion to tuberculosis.

3. Persistent enlargement after removal of all discoverable causes, generally means tubercular infection or a pretubercular condition; therefore all persistently enlarged glands should be removed. H.

Laparotomy for Carcinoma

Dr. H. H. Hanson (*Med. Sent.*, July, 1898) had a patient presenting a symptomatology of cancer, whose general health was greatly enfeebled at the time of operation. Upon opening the abdomen it was found that a sac emanating from the left ovary had ruptured, and the entire abdominal contents were covered with a colloid substance of the consistency of jelly. This mass (34 pounds) was adherent to the liver, kidneys, spleen, stomach, bladder, and bowels, and was removed with great difficulty, having to be peeled from each organ very carefully on account of the hemorrhage it produced. The ruptured

sac was ligated, a drainage-tube was employed for three days, convalescence was rapid, and patient left the hospital in twenty-four days. Ten weeks after this, symptoms of recurrence having appeared, the doctor operated a second time, doing a hysterectomy for the ovarian and uterine cancer which he found. The patient left the hospital after this second operation in twenty-two days. She is in good health, with no return of cachexia. G.

Oophorectomy in an Infant Eleven Weeks Old

Dr. W. W. Beckett (*South. Cal. Pract.*, Vol. XIII, No. 7, 1898) relates the following case: Helen R., 11 weeks old, 8½ lb. in weight, has been delicate since birth—bottle-fed—has suffered with indigestion and constipation; cried a good deal. When about two months old a right inguinal hernia appeared, which became strangulated about three weeks later. When the author saw the child it was not possible to reduce the hernia under chloroform; he therefore opened the canal, and much to his surprise found that it contained an enlarged cystic ovary and the Fallopian tube. The ovary was about the size of a normal adult ovary. It and the tube were removed and the abdominal opening closed after Macewen's method. The child made a very rapid recovery. The wound healed by first intention. S.

The Intravesicular Bulb in Operations Upon the Bladder

Dr. F. Reder (*St. Louis Med. Gaz.*, June, 1898) presents an instrument having the appearance of a Nélaton catheter. It is of rubber, having a bulb at the end which can be distended to a diameter of five inches. It is introduced by means of a staff. The staff is then withdrawn, and a Danielson's syringe is used to inflate the bulb. (The syringe is used experimentally before the introduction of the bulb to gauge the amount of distension desired.) The bulb having been distended and a clamp having been applied externally, suprapubic cystotomy is done in the usual manner; fixation-ligatures are placed and the incision is made, taking care not to cut the bulb. Then the clamp is removed and the bulb collapses, permitting of inspection of the interior of the bladder. The bulb, which has not been removed, is then reinflated, allowing a proper approximation of the wound-margins, suturing, etc. The author has also used this bulb to distend contracted bladders. G.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Uterine Fibroid Simulating Cancer

At a meeting of the Obstetrical Society of London, February 2, 1898, Dr. Dakin (*Med. Press and Circ.*, No. 3066, p. 134) presented as a specimen a large interstitial fibroid of the posterior uterine wall, the patient, aged 38 years, having suffered for two years from hemorrhage, menorrhagia gradually merging into metrorrhagia during the preceding six months, an offensive discharge also accompanying. Examination detected a mass in Douglas' pouch, freely movable and springing from the posterior uterine wall. Upon dilating the cervix a soft, slightly bulging mass was felt near the fundus with a hole leading into a pulpy cavity. A piece cut off the edge, when placed under the microscope, showed nothing more than granulation-tissue. Believing the condition one of cancer a hysterectomy was performed, but after removal it was seen to be a sloughing fibroid which had broken down on the side nearest the uterine cavity. The interest of the case lay in the difficulty of arriving at a correct diagnosis in view of the similarity of the symptoms and appearances to those recognized as associated with carcinoma of the uterus.

L.

Intermenstrual Pain

Before the Obstetrical Society, A. W. Addinsell (*Med. Press and Circ.*, Vol. CXVI, No. 10, p. 251) described the clinical histories of four cases of intermenstrual pain occurring in his practice and discussed cases quoted by previous writers. He believed menorrhagia to be more frequent than is generally supposed, and pointed out that a marked feature in the great majority of cases was the presence of a clear, watery discharge, showing also that in nearly all the recorded cases a tubal lesion was present, which he believed to be salpingitis proceeding to hydrosalpinx. Attention was drawn to the pathological analogy between this condition of tubal colic and appendicular colic, and an endeavor made to explain the periodicity of the phenomena by suggesting the existence of a secondary intermediate discharge of nerve-energy operating upon diseased tubes in certain individuals. In the discussion Herman pointed out that it often occurred in constant and regular relationship to the menstrual periods, and thought the pain due to painful ovulation, which in these cases did not co-

incide with menstruation. Bland Sutton, as well as Herman, was skeptical as to the evidence of the discharge of a watery fluid from the tubes into the uterus. Heywood Smith suggested that the fluid accumulated in consequence of a kink or bend in the tube, and escaped when the pressure reached a given degree, thus accounting for the pain and the subsequent relief obtained.

L.

The Vaginal Douche: How It Is to Be Employed

Byron Robinson (*Med. Rec.*, No. 5, p. 421) is against discarding the vaginal douche as a therapeutic measure. When properly used it is capable of doing a vast amount of good. Its utility depends upon the amount of fluid, the degree of heat, the composition of the douche, the position while taking it, and on the method of using it. A couple of quarts of warm water is worthless as a douche. The author gives the following directions:

1. Use a fountain-syringe holding four gallons of water, with a four-foot head.
2. Begin (for married women) with three quarts of boiled water at 103°.
3. Increase the heat one degree at each sitting until as hot as can be borne.
4. Increase the amount of the douche one pint each time until four or five gallons are taken.
5. Use the douche in the morning and in the evening when retiring.
6. The duration of a four-gallon douche should be thirty minutes.
7. The patient should lie on the back with the thighs flexed on the abdomen and the legs flexed on the thighs.
8. The douche should be taken on a level plane, the ironing-board serving a good purpose, and not in the bed or on the water-closet or in the bath-tub.
9. The douche should never be taken in the standing or sitting posture.
10. A handful of salt and a teaspoonful of alum may be added to each gallon of water—the salt to prevent reaction, and the alum to astringe and check waste by secretion.
11. The vaginal tube used in giving the douche should be sterilized, and every patient should, of course, have her own tube.

The good effects of the douche may be summarized as follows:

1. It contracts the tissues (muscular, elastic, and connective).
2. It contracts the vessels (arteries, veins, and lymphatics).
3. It absorbs exudates.
4. It checks secretions.
5. It stimulates.
6. It relieves pain.
7. It cleanses.
8. It checks hemorrhage.
9. It curtails inflammation. But it must not be forgotten that the douche may also have

evil effects, and those are: 1. It may check normal secretions and thus induce abnormal germ-growth. 2. It may congest the organs. 3. It may irritate the parts. 4. It may produce disagreeable sensations. 5. It may aid in the rupture of a pyosalpinx or an extra-uterine pregnancy. R.

Primary Cancer of the Fallopian Tube

Before the May meeting of the Obstetrical Society A. Doran (*Med. Press and Circ.*, Vol. CXVI, No. 19, p. 487) presented tables of cases of primary cancer of the Fallopian tube, reported by various observers up to April, 1898.

In 1894 Säger and Barta, as well as the writer, prepared simultaneously tables up to date, the latter, however, having had the advantage of being able to add several important after-histories kindly sent him by the original reporters or their successors. In the present tables four more complete reports are included. In the case of Hofbauer, he declares that the patch of epithelioma in the cervix, its surface being smooth and healthy, was quite independent of the columnar cancer in the tubes. Several operators removed the uterus with the cancerous appendages, a reasonable practice from many points of view, in the estimation of the writer. Where the uterine end of the cancerous tube is free from disease, although adjacent viscera be infected, simple removal of the diseased tube is advised as the best surgery. L.

Pus in the Pelvis and the Vaginal Route

Dr. J. T. Johnson (*Amer. Jour. of Obstetrics*, July, 1898) thus summarizes the advantages of the vaginal route over the abdominal in operations:

1. The vaginal section is very much more quickly done than the abdominal, and the convalescence is much shorter.

2. There is little or no shock.

3. The peritoneal cavity being seldom opened in these cases, except when hysterectomy is done at the same time, much less traumatism occurs to intestines, bladder, ureters, omentum, or abdominal wall, greatly to prolong difficult and dangerous operations.

4. Drainage being down-hill is not opposed by the laws of gravity, and is more natural, safe, and copious.

5. There is no ugly scar to annoy the eye and develop a painful keloid or permit a ventral hernia.

6. The mortality of the vaginal operation for pus is vastly less than in that of enucleation of tubo-ovarian abscesses from above

in the badly adherent and complicated cases.

7. Experience has abundantly proved in more than a sufficient number of cases that the removal of the abscessed organs is not necessary to a symptomatic cure, and that a permanent and complete restoration to health is the rule, while a secondary operation later on is the exception.

8. Should a secondary operation from above become necessary, its performance would be much easier and safer, on account of the freedom from pus and the improved condition of the patient.

9. The perfection of the operation for draining double pus-tubes through the vagina has opened the way for many other beneficent operations from below, including anterior and posterior colpotomy, explorations, hysterectomy, etc.

10. Many patients who fear and will not consent to celiotomy with its possible accidents, including intestinal injuries, the post-operative sequelæ and the scar, the stitches, the bandages, the troublesome supporter for six or twelve months, and the possible hernia, will readily consent to vaginal incision and drainage, and vaginal hysterectomy, when necessary.

11. Vaginal hysterectomy with the ovaries left in situ is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus left, or than when they are all removed at the same time.

12. If any or all of these advantages are admitted in favor of the vaginal operation over the abdominal, then it must follow that it is our conscientious duty to operate by this route more frequently in the future than we have done in the past. R.

Instrument for Stimulating the Mammæ

Dr. Dumas has employed with benefit an instrument for stimulating and irritating the mammæ (*Jour. de Méd. de Paris*, 19, VI, 1898). It consists of a large hollow hemisphere enclosing the entire breast, with an aspirating bulb. Every morning the instrument is applied and the breast aspirated. As soon as pain is felt the aspiration is stopped and the apparatus is left in place for twenty or thirty minutes.

The author has used this treatment in the following four classes of cases: 1. Undeveloped breasts; 2. obstinate vomiting of pregnancy; 3. debility in young girls at the period of puberty, and, 4. chlorosis; and cites a number of cases of each class in which the treatment proved of decided benefit. R.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Threadworms in the Ear

Dr. Koebel, of Stuttgart (*N. Y. Med. Jour.*, LXVIII, p. 179), reports an interesting case of a girl, 1 year and 3 months of age, who, after a violent attack of retching, choking, and sneezing, passed a threadworm more than a finger in length, the worm making its appearance at the external auditory canal, whence it was removed by the fingers. The child had suffered for five days from an otitis media purulenta, as a sequel to an attack of pneumonia, and the drum-membrane was undoubtedly already perforated and only served the worm as a means of exit. Before the parasite was passed the child had been rolling around in its bed loudly shrieking for the space of an hour. Within eight days a cure resulted by the closure of the perforation in the drum-membrane. F.

Iodothyrene and Sodium Iodide as Antidotes for Atropine and Muscarine Respectively

Dr. E. Cyon reports (*Pharm. Centralh.*, XXXIX, p. 511) that iodothyrene suspends the paralysis of the pneumogastric nerve (vagus) caused by atropine, whereas sodium iodide reduces the heightened excitability of the pneumogastric nerve caused by muscarine-poisoning. F.

Pharmacological Action of the Thyroid Gland

Robert Hutchison (*Brit. Med. Jour.*, July 16, 1898, p. 142) considers the present state of our knowledge of the thyroid as to the physiological effects of its administration, under the following heads:

1. Effects upon metabolism.
2. Effects on the circulation and blood.
3. Excretion of the active constituent of the thyroid.
4. Dosage of thyroid preparations.

It was observed in the treatment of myxedema with thyroid that the urine of patients taking it had an excess of urea and that the amount of nitrogen thus eliminated exceeded the amount ingested in the same period. Therefore a tissue rich in nitrogen was undergoing increased destruction. But the loss of weight was greater than the mere destruction of proteid tissue would account for. It was also found that at the same time there was great increase in the amount of oxygen taken in and of CO₂

given out. The inference was that taking thyroid led to increased consumption of body-fat. Thyroid increased oxidation in the body, made the tissues more inflammable so that they burnt away more rapidly. The products of disintegration appeared in the urine as urea, uric acid, and the xanthin-bases; but they were found not to be appreciably increased, the loss of weight being due to increased destruction and elimination of fat as CO₂ by the lungs and water by the kidneys. Diuresis is one of the first symptoms of thyroid-feeding, which seems to make the tissues drier and thus increase the amount of urine. When the thyroid-feeding is stopped the loss of water is quickly replaced in the tissues with increase in weight.

Increase of proteids in food may cause temporary storage of nitrogen in the body, but the output soon becomes equal to the intake. Increase of carbohydrates and fat may cause storage of some fat, but it also lessens the amount of proteid broken down in the body, that is, carbohydrates and fats have a proteid-sparing action. The question is does thyroid-feeding increase one of these more than the other? Does it lead to a quantitative or to a qualitative alteration in metabolism, or to both? If the use of thyroid increased the power of the tissues to consume fat without increased destruction of proteid, it would be the ideal "anti-fat." Its use does not accomplish this, for it is accompanied by increased elimination of nitrogen as well as of carbon dioxide. Both tissues being broken down on which does it act most? The writer thinks a good deal of the increased elimination of nitrogen on commencing the use of the thyroid is due to destruction of circulating proteid and that the fixed proteids are only attacked when the fat has been greatly lessened. In treating obesity with thyroid, then, the diet should be full and without diminution of the nitrogenous matter.

No other medicine is capable of increasing the oxidation-processes in this way. It increases metabolism without the trouble of exercise. Its effect is analogous to that of the toxic substances which cause fever, and its further investigation may throw light on the action of the toxalbumins. Its effects also confirm the view that the rise of temperature in fever is mainly due to a diminished heat-loss; for by it one can increase loss of weight to 8 lb. a week without causing a rise in temperature of more than half a degree.

It is yet to be determined whether it acts directly on the tissues or through the nerv-

ous system. The minute quantity needed to produce such powerful effects favors the latter. If the nervous system holds the tissues in control and the thyroid loosens that control, increased metabolism would be the natural result. In any case its essential nature is a hastening on of the life-history of the cells. The reverse occurs typically in myxedema where many of the cells never seem to reach a mature stage. The subcutaneous tissue fills with embryonic cells: when old hairs fall out, cell-division necessary to produce new ones stops and the patient becomes bald. This defect is remedied by the thyroid which hastens on the life-history of the cells. This also explains its usefulness in backwardness of growth in children and in such skin-diseases as ichthyosis and psoriasis.

Reflecting on the normal process of secretion of the thyroid one wonders if the different states of nutrition in different persons is due to differences in activity of their thyroids, and if, in goitre, the hypertrophy is a response to a larger demand. In the young, feeding thyroid lessens development of goitre. Matthes also observes that in goitre metabolism is increased in the same way as in thyroid-feeding. Bettman found (*Berlin klin. Woch.*, No. 24, 1897) sugar given on an empty stomach in thyroid-feeding caused glycosuria, which seems to indicate that it affects carbohydrate-metabolism so as to diminish the power of the tissues to utilize sugar.

2. Increased rapidity of the heart's action is a constant effect of thyroid-feeding. Palpitation and irregularity are sometimes observed. This calls for caution in its use in debilitated subjects, especially in fatty heart accompanying obesity. This suggests a possible value for it in bradycardia. There is slight fall of blood-pressure in patients who are under the influence of the thyroid, probably from enfeeblement of the heart rather than peripheral dilatation of blood-vessels.

It produces increased number of lymphocytes, that is, a physiological leucocytosis. It may even cause chlorosis in treatment for acromegaly. But Lebreton found it to increase all the constituents of the blood when given in myxedema, but to cause greater relative increase of lymphocytes. This, of course, applies only to administration in considerable quantities. There is no effect on the blood in healthy persons from small doses of thyroid.

3. The active constituent of the thyroid appears to be excreted entirely by the kidney. But iodine is not recoverable from the urine in normal feeding of thyroid.

Blum, however, recovered it in dogs to whom he had fed thyroids in excess. In cases of myxedema, the absence of the thyroid, which normally stores the iodine taken into the body, accounts for the ready appearance of it in the urine. The action of the thyroid continues for several days after giving of it has ceased. This is as noticeable in cases of myxedema as in other cases showing that it is not due to the thyroid laying hold of it.

4. There is no satisfactory way of standardizing thyroid preparations for dosage. A given quantity of gland has not always an equivalent quantity of active constituent. The colloid matter may even be of varying composition. The only way to ensure a fairly even value is to prepare the thyroid in large quantities, which method gives a good average strength. It is better given in small doses frequently than in large doses at longer intervals. "Thyroidism," consisting of palpitation, headache, pains in limbs, nausea, diarrhea, etc., is ascribed by Lanz to toxic substances of putrefaction in the thyroid and not to specific action of the thyroid. The author, using a fresh preparation made by himself, found no alimentary symptoms of "thyroidism." But he differs from Lanz in thinking that the headaches, pains in limbs, and cardiac symptoms are due to a specific action of the thyroid. The organic iodine compound of the thyroid gland will stand prolonged boiling without having its activity impaired, therefore a pure product ought to be ensured free from products of decomposition. One-tenth of a grain of colloid matter would be an ordinary dose. H.

On the Use of Xeroform in the Treatment of Skin and Venereal Diseases

Heinrich Paschkis, lecturer at the University of Vienna, says (*Wien. klin. Rundschau*, 1897, No. 42), that one of the most important improvements in the treatment of ulcerations of all kinds is the use of remedies in the powdered form. The absence of necessary preparation and the ease of application have given them a permanent place, more especially in the ambulant treatment of the diseases of the skin and the sexual system. He is pleased to admit that the latest and cheapest of these powdered remedies, xeroform, has entirely fulfilled all the demands that were made of it. He has used it in over 100 cases of the most varied kinds, including ulcerations of all sorts, eczemas and various other skin diseases.

The mode of application was very simple. After cleansing the surface of the ul-

cerations with a wad of cotton the xeroform was dusted on with a camel's-hair brush, two to four layers of absorbent gauze placed over it, and the whole when necessary dressed with cotton and a bandage. Bandaging was dispensed with when the ulcerations were seated upon the glans, the inner surface of the prepuce or the sulcus coronarius. Burns were dressed in exactly the same way. In eczemas and other skin-diseases the excoriated areas were either treated in the same manner, or they were first powdered with the xeroform and then covered with an indifferent salve or Lassar's paste.

The following cases were treated:

1. Ulcerations of the genitals, including lesions remaining after opening of suppurating lymphatic glands.....62
Time of treatment up to cicatrization 4 to 43 days
2. Herpes zoster, and balanitis..... 5
Time of treatment up to cure 4 to 11 days
3. Eczema 6
Time of treatment up to cure 8 to 22 days
4. Chancre 7
Time of treatment up to cicatrization 13 to 20 days
5. Ulcers of the leg..... 5
Time of treatment up to healing 7 to 30 days
6. Burns 4
Time of treatment up to cicatrization 6 to 108 days

The action of the drug throughout was a very satisfactory one. Necrotic venereal ulcerations, as well as simple ones of the legs in similar condition cleaned off very rapidly. Healthy granulations sprang up rapidly even in deep ulcerations, and cicatrization advanced daily. Erosions and superficial losses of tissue closed up within a few days at an astounding rate; and the same occurred with the exulcerated initial lesions. Naturally the latter sometimes remained depressed and hard after the ulceration had entirely ceased. Specially valuable characteristics of the xeroform seemed to be that it had no caustic action at all, and never caused the formation of crusts that retained the secretions. It is this latter quality, in his opinion, that rendered the occurrence of suppurative adenitis such a rarity.

Ichthyol in Acute Laryngeal Catarrh

Cieglewicz (*Rev. de Thérap. méd.-chirurg.*, LXV, p. 421) recommends the employment of ichthyol, in the form of 2-per-cent. cold inhalations in acute laryngeal catarrh, made twice a day. The inhalations must not be too profound, in order not to excite nausea or vomiting. The results obtained by this

means are described as very satisfactory; under their influence, the hoarseness and the painful cough rapidly disappear. The author's observations were carried out on both adults and children. Among the latter the ichthyol was employed a number of times in false croup, and always with excellent results. The inhalations were very well borne by all the patients, who rapidly became accustomed to the taste and odor of the ichthyol. No untoward by-effects were ever observed by the author. F.

Condurango in Gastric Pain and Vomiting

Dr. Gouvenel (*Jour. de Méd. de Paris*, June 19, 1898) says that condurango produces an excellent effect in gastric pain and vomiting. It is also effective in checking hematemesis. The drug is given in daily doses of 30 to 60 grn., in divided doses in cachets, or in the form of a 20-per-cent. tincture, 2½ to 5fl. dr. being administered daily. R.

Peronin as a Sedative

J. Braun, of Mokrin (*Allgem. Wien. med. Ztg.*, XLIII, 1898), reports having used peronin in powder, solution, or tablets—generally in the latter form—with the greatest success. The tablets contained 0.02 gme. (1-3 grn.) each of the remedy, and the author gave from 6 to 8 daily, without ever observing any unpleasant symptoms whatever; on the contrary, all the patients were greatly pleased with its action, because it alleviated the cough and afforded them in consequence a much-needed rest. Even in the severe cough of tuberculosis in the advanced stages, peronin was found to be the best and most lasting remedy for checking the irritation causing the cough. It causes no constipation, does not lessen the appetite nor increase perspiration, but acts as a sedative, even from the first few doses given, and in such a manner as to inspire the patients with renewed hope for future recovery. In hemoptysis it is also preferable to morphine because it does not so fatigue the already debilitated patients, but relieves the excitation, and sufficiently checks the irritation causing the cough.

As a sedative and hypnotic, the author has given peronin in larger doses (0.05 to 0.08 gme. per day); and from the results obtained, he judges peronin to be an excellent sedative and hypnotic, which may be taken without any danger. Several cases of persistent sleeplessness were treated in which two or three peronin tablets, taken several evenings in succession, induced

quiet sleep. Attention is also called to the important fact that peronin may be of assistance in withholding morphine from patients, as a substitute for the latter. A case is cited in which a very satisfactory result was obtained. In conclusion, the writer states that he employs peronin with success in all cases where excitations are to be subdued and pains relieved. As a rule two tablets are ample for quieting hysterical convulsions, relieving migraine, and for affording rest in other neuralgic or in rheumatic pains. F.

Hunyadi Janos Water

The following formula is said to closely approximate the natural water (*Tex. Cour.-Rec. Med.*, July, 1898):

Potassium sulphate	0.5 grn.
Sodium chloride	14 grn.
Sodium bicarbonate	52 grn.
Sodium sulphate, dry.....	180 grn.
Calcium sulphate	15 grn.
Magnesium sulphate, dry.....	24.5 grn.
Terron's sulphate, dry.....	0.2 grn.
M. Sig.	3 ss—Oj Aqua.

G.

Mydrine as a Mydriatic

Dr. Sydney Stephenson (*Phila. Med. Jour.*, II, p. 156) has reached the conclusion that mydrine is capable of doing all that has been claimed for it by Cattaneo, Groenouw, and others; namely, its capability of causing moderate dilatation of the pupils without involving the function of accommodation. He believes it to be a valuable agent in the hands not only of the ophthalmologist, but also of the physician desirous of examining the fundus oculi with a dilated pupil.

Mydrine is used in 10-per-cent. solution. As compared with other mydriatics it gives quicker and less lasting results. F.

A Study of the Effect of Minute Doses of Ether and Chloroform

H. C. Wood, Jr. (*Univ. Med. Mag.*, Vol. X, No. 10, p. 595), employs a special apparatus. This consists of an air-tight box, of which the sides and top were made of glass, allowing a constant observation of the animal, resting on an iron base in which a trough of water assured the exclusion of air. In each end of the box were two holes, of which one was connected by means of a T-tube to two Bunsen pumps, the other to a gas-meter.

In the tube leading to the gas-meter was an opening which communicated with a burette containing the anesthetic. In order to assure a constant pressure in the burette,

and thus a regular rate of flow, the other end of it was connected with a Marey flask, by lowering or raising which the rate might be diminished or increased. The amount of air needed only to be read on the gas-meter and the amount of the anesthetic on the burette. The cubic contents of the box were about sixty liters, the amount of air passing through varying from 150 to 200 liters per hour. The animals lived in an atmosphere differing from the outside only in containing a slight excess of carbon, which was inevitable, and a definite amount of anesthetic vapor. With air containing 6 cc. of chloroform per 100 liters the first sign of uneasiness occurred in a dog in one hour and three minutes; with concentrations of 2 to 2.5 cc. per 100 liters the first symptom came on usually in about fifteen minutes, the condition being a semiparalytic one, in which the dog, although struggling continuously, had not sufficient strength to stand up. Rabbits seemed, as a rule, more resistant to chloroform than did dogs. In the consideration of these results it is interesting to compare the amounts of ether required to produce like effects, such a comparison bearing directly upon the much-discussed question of the comparative strengths of the two drugs. The writer found that 10 cc. per 100 liters caused the first signs of restlessness in about one hour, concentrations of 12 cc. or above in about half the time, the latter causing a sort of paralytic condition after two hours, but no true narcosis. As with chloroform, rabbits showed themselves less susceptible than did dogs. From these experiments the writer concludes that ether, to produce the same effect, requires a concentration about ten times as high as that of chloroform. As to a difference, aside from that of strength, between the action of these two anesthetics, the writer contributes a few facts, taking into consideration the physiological law that the higher centers of the cerebral cortex are first affected. There being no practical method of studying accurately the changes in the intellectual functions of the lower animals, the spinal cord was therefore the means through which experiments were made. The same animals were used at different times for the two experiments, and in no case, with dogs, did the excitation fail with chloroform, while with ether it was never so marked, and often entirely absent.

Beginning with small doses of ether, the writer has also observed clinically that it is often possible to bring a patient to the stage of full anesthetization with none of that struggling so unpleasant to both patient

and physician. When corresponding amounts of the anesthetics had been given, the animals being brought to the same degree of narcosis, so-termed, and when the anesthetics had been administered for the same length of time, in every case recovery was nearly three times as long after chloroform as after ether. Moreover, in two instances where the animals had been deemed sufficiently recovered, being in fact almost entirely so, to be left for the night after chloroform they were found dead the next morning. The picture of the onset of the symptoms needs no explanatory comment, except that occasionally, after ether especially, the local irritation was manifested by salivation. L.

The Treatment of Psoriasis

Luton (*Pharm. Centralh.*, 1898, No. 14) in a 40-year-old case of psoriasis obtained excellent results following the use of a 20-per-cent. solution of hydrogen peroxide. He used also a hydrogen peroxide serum so-called in doses of 1 ccm. as a subcutaneous injection. It had the following formula:

Sodium-phosphate Solution	10%	75.0
Hydrogen peroxide	20%	25.0

This combination gave more striking results. J.

Brief Notes on New Remedies

A new series of therapeutic preparations has been prepared by Dr. G. F. Henning, of Berlin (*Pharm. Centralh.*, XXXIX, p. 508). They are designed to evolve formaldehyd gas by the action on them of an alkali or an acid. Among these products is Galloformin, $C_6H_2(OH_2)COOH.(CH_2)_6H_4$, obtained from gallic acid and hexamethylenetetramine. It forms hard, very refractive needles, which are difficultly soluble in cold water, alcohol, ether, or glycerin, and insoluble in chloroform, benzene, or olive-oil. Its solutions should only be prepared in the cold, and it is intended for both internal and external use. F.

Thymoform, $C_6H_3(CH_2)(C_6H_4)O \setminus CH_2$,
 $C_6H_3(CH_2)(C_6H_4)O \setminus CH_2$,

also introduced by Dr. G. F. Henning (*ibid.*), is prepared by the action of condensers on thymol and formaldehyd. It occurs as a yellowish, tasteless powder, of faint, thymol-like odor. It is readily soluble in ether, alcohol, chloroform, or olive-oil, but insoluble in water, benzin, glycerin, or potassa-solution. On boiling with sulphuric acid it liberates formaldehyd, which appears to be present in the compound in an

acetal-like form. Thymoform is intended to replace iodoform and dermatol.

On iodizing thymoform in the usual manner, iodothymoform is obtained. This is a yellow, well-nigh odorless powder, rich in iodine, and readily soluble in ether, alcohol, chloroform, benzene, or olive-oil, but insoluble in water or glycerin. Dressings impregnated with iodothymoform can be readily sterilized, because the melting-point of the compound is above 150° C. F.

Just as with thymoform, so Dr. Henning (*ibid.*) prepares geoform and creoform, from guaiacol and creosote respectively. These form odorless, tasteless compounds, free from irritant or poisonous action. They are readily soluble in potassa-solution, but are reprecipitated by acids. They are insoluble in water or benzin, but readily soluble in alcohol, ether, or hot benzene. F.

From the naphthols and eucalyptol Dr. Henning (*ibid.*) obtains alpha- and beta-eunol. These compounds have a very bitter taste, are insoluble in water, but readily soluble in alcohol, ether, benzene, chloroform, or olive-oil. They are intended for dermatological use as vulneraries. F.

When polyvalent phenols, or phenols with a condensed benzene-nucleus, are dissolved in aqueous formaldehyd-solutions, and an excess of ammonia added without cooling, insoluble compounds are obtained of high formaldehyd-content and of powerful bactericidal properties. Resorcin treated in this manner yields, according to Dr. Henning (*ibid.*), insoluble polyformin, an odorless, amorphous, yellowish-brown substance, insoluble in all the usual solvents, and serviceable as a substitute for iodoform. F.

By combining two molecules of resorcin with one molecule of hexamethylenetetramine, however, soluble polyformin (di-resorcin-hexamethylenetetramine) is obtained, of the formula $[C_6H_4(OH)_2]_2.(CH_2)_6N_4$. This forms a handsomely crystallizable, white substance, soluble in cold water or alcohol, but insoluble in benzene, ether, or olive-oil. The aqueous solution is decomposed on warming, with the liberation of formaldehyd and the formation of an insoluble product. Its solutions must therefore be prepared in the cold. The preparation is intended for external application in cutaneous diseases, and internally as an antifermentative and diuretic.

Alpha- and beta-naphthols, treated as above described, yield compounds resembling insoluble polyformin, and possessing

similar properties. These compounds are called naphthoformins, and are intended for dermatological use. F.

The alkaloid from *Aconitum lycoctonum*, named lycoctonine, has been experimented with by Marchetti (*Pharm. Post*, XXXI, p. 333), who finds it to be a weak cardiac poison; in the frog 75 ctg. per kilo of weight constitutes the lethal dose. Lycoc-tonine occurs as a yellowish-white powder, difficultly soluble in water, but readily soluble on the addition of acetic or tartaric acid. On the nervous system it exerts a paralyzing action, and on the striated muscles a peripheral effect. F.

A new quinine-derivative has been prepared by Erich Langheld, of Steglitz (*Apoth. Ztg.*, XIII, p. 482), by treating a hydroalcoholic solution of quinine hydrochlorate with ozonized gas until alkalies no longer cause precipitation. The new preparation forms an amorphous, yellow powder, very soluble in water, alcohol, ether, and benzene, has an acid reaction, and has the formula $C_{19}H_{20}N_2O_5$. F.

Guacamphol, $C_8H_{14}(COO.C_6H_4.O.CH_3)_2$, is the camphoric-acid ester of guaiacol. It occurs (*Pharm. Centralh.*, XXXIX, p. 509) in the form of handsome, white, odorless, and tasteless crystalline needles. The compound is insoluble in water, but is comparatively readily soluble in hot alcohol or chloroform. It is slowly saponified by potassa solution. Guacamphol is said to be of service in the night-sweats and diarrhea of phthisis. F.

"Eudermol" is the name recently given to nicotine salicylate. The remedy is recommended by Dr. Max Heimann (*Pharm. Centralh.*, XXXIX, p. 524) as an active remedy in various affections of the skin. The preparation crystallizes in the form of colorless, hexagonal prisms, melting at 117.5° C. It is entirely free from water of crystallization, and in well-stopped vials may be kept unchanged. It contains 54 per cent. of nicotine. F.

Formaldehyd-disinfection

Schlossman (*Brit. Med. Jour.*, August 6, 1898) says there are two methods. In Trillat's method an attempt is made to prevent the formation of polymers of formaldehyd by adding calcic chloride, whereas in Schering's apparatus para-formaldehyd is converted into gas, and this is again changed into formaldehyd by means of the water

produced by the burning of a certain amount of spirit. Probably, however, in both methods the greatest part of the formaldehyd escaping into the air is converted into polymers. In the method introduced by the author and Walther, polymerization is prevented by the use of hygroscopic substances, and especially glycerin. Lingner has constructed an apparatus consisting of a vessel in which the water is boiled. The steam rises into a reservoir which contains 40 per cent. formaldehyd and 10 per cent. glycerin. This mixture they term glycoformal. From this reservoir four pipes pass out into the room. In this way the room can be quickly filled with a mixture of formaldehyd-steam and glycerin. A room of 60 cm. is so filled with vapor in ten minutes that an electric lamp placed in the center is no longer visible. All microbes are destroyed in three hours at the latest.

The advantages claimed by Schlossman are: (1) The sterilization is absolute, (2) the closure of all cracks and clefts is not necessary, (3) the procedure requires only three hours, (4) there is no danger of explosions, (5) the method is cheap, (6) the glycoformal vapor is heavier than air and therefore sinks, and (7) the total disinfectant powers of the gas are obtained. The windows are thrown open for half an hour after the disinfection. Liquid ammonia is then placed in the room in an amount proportionate to the formaldehyd used. The windows are again opened, and thus all smell is got rid of. This method of disinfection can be carried out by the unskilled. Hess made the bacteriological investigations for the author. S.

Zinc Valerianate in Angioneurotic Edema

Dr. Waltham (*West. Med. Surg. Gaz.*, Vol. I, No. 8, p. 440) reports the following case: The patient, a young man of good general health, began to suffer about two years ago with peculiar attacks of eruption, resembling erysipelas. The attack commenced on the bridge of the nose and extended to both cheeks. The redness was intense, the skin was somewhat stiff, but there was no itching, pain, or fever. After lasting three or four days the eruption suddenly disappeared, leaving no traces. Six months later the same attack reappeared, but gradually the attacks became more frequent; until the time when the author saw the patient, they came on every week. They would always commence on the bridge of the nose, sometimes spreading to one cheek, sometimes to both. As a rule the attacks lasted three days. Many physicians

were consulted by the patient without relief. The nasopharynx was perfectly normal. Realizing that angioneurotic edema is a vasomotor neurosis, and that in this case the local condition was due to relaxation of the muscular coats of the blood-vessels, it occurred to the author that valerianate of zinc would be the remedy from which the best results could be expected. The patient was accordingly given 2 grn. in capsules, four times daily, afterward increasing to 3 grn. per dose. Since commencing this treatment there has been no relapse. As three months have passed since, and as he was having his attacks every week before the treatment, the author thinks that this result must be ascribed to the action of the drug.

R.

Ethereal Oil of *Melaleuca Viridiflora*

At a meeting of the Paris Therapeutical Society, Dr. Dubousquet-Laborderie spoke of his experience with the above-named oil (*Le Bulletin méd.*, June 22, 1898). Like the oils of cajuput and eucalyptus (*Melaleuca viridiflora* is a species of cajuput), this oil also contains eucalyptol and terpinol, but unlike them it contains only traces of aldehydes and is therefore not poisonous. It is also richer than the other oils in the amount of eucalyptol. The mode of administration of the oil—which by the way must be absolutely free from adulterations—was either by hypodermic injections, which were free from all irritation, or in capsules (55 min. in each), or mixed with syrup. On the stomach it had no deleterious effect whatsoever, differing markedly in this respect from eucalyptol, creosote, guaiacol, and oil of turpentine. Nor did it produce any bad effect on the kidneys even in those suffering with albuminuria. This oil was employed by the author and proved markedly beneficial in the following classes of diseases: In tuberculosis, first and second stages (excepting congestive and acute cases); in severe coughs with abundant expectoration (in those cases the oil acted not only as a disinfectant for the bronchi, but also as an anti-convulsive and anodyne); in coryza (in the form of inhalations); in tonsillitis (in the form of a gargle); in purulent cystitis and gonorrhea (irrigations with a 2-per-cent. solution; the purulent secretion ceases very rapidly, even in the most acute cases); in wounds (in the form of a 5-per-cent. solution); and last, in post-influenzal neuralgias and in obstinate rheumatism; in the last two classes of affections the oil was employed in the form of an ointment of various strength, and the alleviation of the pain was very rapid.

R.

REVIEWS

Inebriety. Its Source, Prevention, and Cure. By Charles Follen Palmer. New York, Chicago, and Toronto: Fleming H. Revell Company. 12mo. Cloth. Price, 50 cents.

While the author of this little book is not a medical man, he has evidently made close and careful study of the subject from various viewpoints.

To biological factors he has very properly given much weight in considering the etiology of the subject. These factors are, in the author's opinion, always present as predisposing causes.

The sociology of inebriety is carefully considered.

Mr. Palmer has given the best classification of inebriety which we have seen, describing briefly but pointedly the moral status of each class.

Altogether, the book is valuable alike to physician and layman, and presents the subject in a logical manner.

The volume is nicely bound and the press work is excellent.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease, and their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; author of "A Text-Book of Practical Diagnosis," etc. Seventh Edition, Enlarged, Thoroughly Revised and Largely Rewritten. Lea Brothers & Co., Philadelphia and New York. 1898.

Dr. Hare has won so enviable a reputation as a writer on medical subjects that critical readers and students are disappointed when they read a paper or book from his pen and do not find it brimful of excellence and originality. This latest revision of his work on Practical Therapeutics we fear will cause such readers some disappointment, not because it is not well done or carefully put together, but because it is not up to their expectations of what he should give them. As a class-book for students it is excellent. As a text-book for practitioners it is likewise very good, but as a new work on therapeutics coming subsequent to the publication of Lauder Brunton's Lectures and from such a writer as Hare it is far from satisfactory.

The volume is divided into four parts. The first treats of General Therapeutical Considerations, the second Drugs, the third Remedial Measures Other Than Drugs and Including Foods For the Sick, and the fourth Diseases, Doses, Weights and Measures, Index of Drugs, etc. Although the title of the volume gives no indication that the work treats specially on Materia Medica, the part devoted to Drugs fills more than half of the volume. The pages devoted to "remedies other than drugs" is, strange to say, in great part devoted to the consideration of drugs, but drugs for external rather than internal use. The third division of the volume is by all odds the most interesting and valuable. It contains a large amount of excellent information, yet not so much as it should have contained nor as well put as it should have been by Dr. Hare.

In one particular the volume is badly marred, and marred in a way that does no credit to an author of his standing. Its pages are used to cry

down the wares of one manufacturer while extolling those of others. This renders it a covert advertisement instead of a free, unbiased textbook. On page 43 it refers to a drug that has for years been supplied to the profession in anything but a satisfactory condition of purity. Because one firm supplied the trade with a medicinally pure article under a distinctive name, Dr. Hare advises his readers not to preserve the drug under that name. Why? The firm that supplies the article tells the user what its chemical name is and only claims superiority of quality. On pages 446 and 452 he practically asks the student to prescribe certain manufacturers' goods by naming the firms with the goods. Thus stultifying himself by logical inconsistency, Dr. Hare at once irretrievably damages his book and to some extent his own reputation. The publishers have done really first-class work. The paper, binding and typography are all that could be desired.

Second Annual Message of Charles F. Warwick, Mayor of the City of Philadelphia, with Annual Reports of Frank M. Ritter, Director of the Department of Public Safety and of the Board of Health for the Year Ending December 31, 1896. Philadelphia. 1897.

This is one of the regular statistical type of official reports such as are published throughout the country. It is of little value to the medical man; in fact, it is difficult to perceive who benefits from reports of this kind save the printers and bookbinders.

Twenty-second Year-Book of the New York State Reformatory for the Fiscal Year Ending September 30, 1897. Elmira. 1898.

This is a small, neat volume made entirely by the inmates of the reformatory, containing a series of reports covering the work of the institution for the year 1897. The book is well illustrated, showing the type of work turned out in the different manual departments.

A Clinical Text-Book of Medical Diagnosis for Physicians and Students, Based on the Most Recent Methods of Examination, by Oswald Vierordt, M.D., Professor of Medicine at the University of Heidelberg. Authorized Translation, with Additions by Francis H. Stuart, A.M., M.D., Member of the Medical Society of the County of Kings, New York. Fourth American Edition, from the Fifth German, Revised and Enlarged, with One Hundred and Ninety-four Illustrations. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, cloth, \$4.00 net; sheep or half morocco, \$5.00 net.

This is probably one of the very best works extant on general medical diagnosis. It is thorough, practical, and as complete as such a work can yet be made within the domain it seeks to cover. To master its contents is no child's task, and to make it so completely one's own as to be able with facility to pursue every method described would constitute the life-work of a very long-lived individual. The author in his preface to the first edition said that "should the book to any extent antagonize the inclination of our time to theorizing, it would afford me especial satisfaction." Unless he meant premature or "far-fetched" speculation, it is difficult to surmise what he could mean by such an expression. By the very nature of things every diagnosis is a theory, and because of this it is impossible to conceive of any other practical use

for this excellent volume than to encourage, not discourage, theorizing. Indeed it is a great pity that we are not yet able to generalize sufficiently well the data a work like this contains so as to bring it within not only the capacity of the average student to acquire it, but the ability of the average practitioner to utilize it. To systematize facts is as essential as to discover them. It is impossible within the limits of a brief review to point out the many good things which are contained in this volume and which every up-to-date practitioner will feel thankful for. Dr. Stuart has certainly done the profession a great favor in giving it in so well translated a form, and he along with the publishers deserves our thanks. It is filled with a perfect embarrassment of useful information to all who study it diligently, and it covers the whole field of practical diagnosis except the latest one of the Roentgen ray. We presume future editions will embrace this also, so as to have them make a clean sweep of the whole horizon of human knowledge in the domain of medical diagnosis.

CORRESPONDENCE

POKEBERRY-POISONING

To the Editor of the A. M.-S. BULL.:

The following case of poisoning by eating the fruit of the poke (*Phytolacca decandra*) will probably be of interest to your readers. On the 16th of August, 1898, two little girls, named Annie Rosen and Beckie Borenstine, aged respectively 7 and 5 years, who lived on a farm about two miles from my residence, went to an adjoining field among some bushes, and in an hour or two returned home looking very pale. The oldest one (Annie) told her father that they had eaten some berries and felt very sick. Their parents immediately brought them to my office. Annie presented the following symptoms: Sleepiness, relaxed muscles, nausea, vomiting, pain in the stomach, and paralysis of the secretory organs for a few hours. Beckie presented the following symptoms: Sleepiness, absence of nausea, no vomiting, lockjaw, rigid extremities, respiration normal, full pulse, paralysis of secretory organs, pupils first contracted then dilated, loss of speech, and, finally, paralysis of the respiratory organs. I administered to each as emetics zinc sulphate in solution and mustard, followed by strong black coffee as an antidote. Annie after a few doses recovered. Beckie showed no signs of recovery. Vomiting could not be induced. The stomach-pump was used and stimulants injected, but she died while I was at work upon her.

H. ROSAHNSKY, M.D.

470 Watkins Ave., Brooklyn Borough,
New York City.

According to the will of Miss Arethusa L. Forbes, of New York, lately filed in the Surrogate's Court, a large amount of property has been left for the payment of tuition and instruction of meritorious young women wishing to study medicine at the Woman's Medical College of the New York Infirmary. Madonna F. de Hart, of Jersey City, N. J., is directed to select the young woman who shall receive such aid in her medical studies. George P. Rowell, the executor, has the right under the will to select the Woman's Medical College of Philadelphia instead of the New York college if it seems wise to him.

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EDITOR'S NOTES

At the late meeting of the American Social Science Association at Saratoga Springs, Mr. Saint Clair McKelway, editor of the Brooklyn *Eagle*, read a paper on expert testimony in which appears the following statement: "Experts are paid to give the opinion which they do render under oath and are paid to impair or destroy the contrary opinion, which antagonistic experts are likewise paid to render and defend under oath." As Mr. McKelway was referring principally to medical experts when he made this statement we think it would have been well for him to have made some inquiries among these experts themselves before coming before the public with so sweeping and terrible a charge. We doubt whether among the most debased members of the medical profession he could find a single individual to whom such a charge would apply. For him to claim that all the most intelligent and best-educated members of the profession can be bribed into perjury by a miserable fee is simply infamous. We fear the statement was a slip of the pen on the part of the usually most careful editor of the *Eagle*. He surely never meant to make so sweeping and foundationless a charge. He must have accepted such a conclusion on hypothetical grounds and without pausing to consider how much it implied. Usually when medical experts are required it is to

settle or try to settle questions that are still *sub judice* so far as the profession is concerned or to give an opinion on some case of doubtful diagnosis. In all such cases there is ample room for honest differences of opinion and when one is called to act as an expert it is because he agrees with the side that calls him. He does not agree with them because they call him, but on the contrary they call him because he agrees with them. There is nothing either dishonest or discreditable to the expert in appearing as he does as the defender of an honest opinion. Lawyers who have sought medical experts for cases have often felt chagrined because the medical man to whom they first applied has refused to testify for them, however tempting their fee. Few, if any, medical men will do otherwise than refuse to testify in a case which they know or believe to be in the wrong.

If ready-made medicines are good enough for the army why are they not good enough for the community at large? This is an interesting problem to inquire about in these days of investigating committees. If we really do not need tinctures, decoctions, infusions, pills, and solutions compounded to meet special indications in our patients it might be wise to start a reformation and do away with the pharmacies and pharmacists at once. Why tax our patients for freshly compounded remedies if no one is saved by such outlay? On the other hand if the compounding of prescriptions adapted to the special requirements of our patients is of any benefit and saves any lives it would be interesting to know how many of the sick soldiers perished because they could not get the kinds of medicines which the prescribing surgeons would have ordered for them had they been at home. It is a notorious fact that no experienced pharmacist ever remains in the army more than a single term of enlistment, and long before the term expires he is heartily tired of his post. Rarely does an experienced pharmacist ever even try army life. This being so, it would be interesting to know what would happen to medical practice if all our prescriptions had to be confined to ready-made goods and then had to run the gauntlet of inexperience and incompetence before reaching our patients. This is what most army surgeons must endure and the consequences of this fall upon the sick and suffering soldiers. It is to be hoped that investigating committees while at work will not forget to probe this to the bottom and discover who is to blame for such a state of affairs. Why do not experienced phar-

macists enter the army and why do the young men with slight experience or none who do enter never re-enlist? Why cannot sick soldiers get medicines adapted to their requirements as well as sick civilians?

Differentiation is declared to be one of the most distinctive evidences of progress. We see it in the incessant tendency to division of labor going on in all progressive communities. In the medical profession this division of labor is becoming more and more marked every year. Can any one doubt its advantage? Is it conceivable that a medical man in general practice should or could be able to perform a laparotomy with the skill of an experienced surgeon, or remove a cataract with the dexterity of an ophthalmologist? Is it not certain that lives are constantly being saved that otherwise would be lost but for this medical differentiation? In the army all the call is for surgeons. General practitioners or specialists for troubles other than surgical seem not to be needed there. Is this because soldiers need no medical care? Have they no ailments except those that are due to bullets? Men making a specialty of surgery are just as incapable of doing good work in medicine as the skilful medical practitioner is in surgery. Why then is there not a division of labor established among the practitioners of the army that is sure to result in the saving of more lives? Is it not possible that the surplus of surgeons and the lack of physicians may account for some of the many lives that were sacrificed in the late war? As it is the universal experience of all armies in every war that more die from disease than bullets it would seem as if common sense would dictate to those in charge the advisability of having more physicians than surgeons instead of as now all surgeons and few or no physicians. Will the investigating committees discover who is to blame for this anomalous state of affairs?

Menthol in Whooping-cough

Dr. Boltunow says (*Vratch*, No. 30, 1898) that inhalations of menthol have given him very satisfactory results in the treatment of pertussis. He cannot say whether the course of the disease is shortened, but he is certain that it diminishes the number and the severity of the attacks. Several times when the child felt the approach of an attack, and a bottle with menthol was put to his nose, and he made a few deep inhalations, the attack was aborted. Altogether the course of the disease seemed less severe.

R.

PUBLISHERS' DEPARTMENT

HAWAII AND THE PHILIPPINES

Send four cents (in stamps) for an illustrated booklet issued by the Chicago, Milwaukee & St. Paul Railway, the direct route across the American Continent to the New Trans-Pacific possessions of the United States. Full of latest reliable information and valuable for reference. Can be used as a text-book in school. Address William Kelly, Jr., G. E. P. A., 381 Broadway, New York.

ACUTE INFLAMMATION OF THE PROSTATE GLAND

The Journal of the American Medical Association, for August 20, contains a report on inflammation of the prostate gland, which was presented to the Section on Surgery and Anatomy at the forty-ninth annual meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898, by Liston Homer Montgomery, M.D., of Chicago, Ill. His plan of treatment in acute inflammation of the prostate gland is to wash out the abscess-cavity with hydrogen peroxide, give copious hot-water enemata and hot hip-baths frequently, avoid morphine internally, and advise care lest the patient strain at stool or during micturition. On the theory that toxins are retained in the circulation and within the gland, and to prevent degeneration in the gland substance, he administers triticum repens or fluid extract tritipalm freely, combined with gum arabic or flaxseed infusion. Along with these remedies the mineral waters, particularly vichy with citrate of potash, go well together. Hydrate of chloral and this salt combined with antikamnia are the very best anodyne remedies to control pain and spasms of the neck of the bladder. These pharmacologic or medicinal remedies are the most logical to use in his judgment, while, externally, applications of an inunction of 10 or 20 per cent. iodoform, lanoline, as well as of mercury, are also of value.

HYDROCYANATE OF IRON AND VALERIAN

The Tilden Co., of St. Louis, Mo., has received the following letter from a California physician:

WESTMINSTER, Cal., Aug. 11, 1898.

Dear Sirs:—Enclosed find P. O. money order for \$1. Please send by return mail 1 oz. Tablets Hydrocyanate of Iron and Valerian.

My case of epilepsy is doing fine, has had no trouble for the past three months, and appears as well as he ever was. Works hard every day on hay bales, tying and lifting heavy bales of hay. Will send full history of case when we get through if you desire it.

Respectfully,

F. E. WILSON.

AN ALL-ROUND UTERINE TONIC

The Dios Chemical Co. have received the following letter from a Youngstown, O., physician: I have found Diobivurnia, prepared by the Dios Chemical Co., of St. Louis, to meet the most exacting requirements of a general, all-round uterine tonic, and know of no other preparation on the market to fill all the requirements

so well. I have used it in a case of chronic uterine trouble following a miscarriage, in which the patient, a multipara past forty years of age, had been a sufferer with uterine trouble for over fifteen years. Countless other remedies had been tried until the patient had almost despaired of recovery, and was about to go under an operation when Diuiburnia was tried, acting almost like magic. I have found it equally satisfactory in several other cases of chronic uterine trouble and find it where given a fair trial, an invaluable assistant.

ANTITOXIN IN LARYNGEAL DIPHTHERIA

Rosenthal (*Maryland Medical Journal*, July 30, 1898) gives his experience in sixty cases. He says: "I wish to place on record sixty cases treated with antitoxin. They are such cases as every general practitioner meets, the only difference being that cases not showing marked laryngeal involvement have been excluded. Twenty-eight required intubation, and of these eight died. Of the cases which did not require intubation but one died. This death I think could have been prevented had intubation been performed." The mortality rate of the entire series is 13.3 per cent.

In all the cases except four concentrated antitoxin of the Philadelphia brand was employed, and doses of from 2000 to 4000 units were used in the severest cases. In one case which relapsed three times a total of 16,500 units was employed. The child wore a tube 72 hours and the case was extended over 20 days. The issue was favorable.

NEWS

The Memphis Board of Health has tightly maintained its quarantine against yellow fever, refusing all requests for modification.

Soldiers returning from Cuba and Porto Rico report seeing in the streets of cities there a large number of beggars suffering with elephantiasis.

A pavilion hospital of 400 beds is to be erected on Angel Island, near San Francisco, to accommodate silk soldiers returning from Manila and Hawaii.

Leiter Hospital, the largest general hospital at Camp Thomas, has been abandoned. Sternberg Hospital is now large enough to accommodate all the sick soldiers that are there.

The tenth annual meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee will be held in Birmingham, Tuesday, Wednesday, and Thursday, October 25, 26, and 27. The prospects are for a large and successful meeting.

The Brockton, Mass., Medical Society has voted that after the close of the year 1899 no member shall be allowed to take society contracts. The lodge physician must then cease to exist in that region. A "dead-beat" list has likewise been prepared for the benefit of the members.

At the September meeting of the Medical Department of the University of Nashville, the faculty unanimously decided that all students matriculating after the present session of 1898-99 shall be required to attend four full courses of lectures before being permitted to apply for graduation.

At the recent meeting of the Supreme Grand Lodge, Knights of Pythias, held in Indianapolis, Ind., the question of erecting a sanitarium at Hot Springs was referred to the Grand Lodge

of Arkansas with power to act. The plan is to raise a fund of \$500,000 for the sanitarium by assessing each Knight a dollar. At the last session of Congress a bill was passed donating to the Knights of Pythias five acres of land on the government reservation at Hot Springs as a site for the sanitarium.

Brigadier-General Boynton reports to the War Department under date of September 15 that "the medical-supply division at Camp Thomas, Chickamauga, Ga., closes to-day with at least twenty carloads of medical and surgical supplies still on hand, sufficient to fit out fifty regiments with medicine."

The eighth annual meeting of the American Electro-Therapeutic Association was held in Buffalo, N. Y., on September 13-15. Many very interesting papers were read, among which was one from Nicola Tesla, the great electric expert. Dr. Francis B. Bishop, of Washington, was chosen president for the coming year.

An effort is being made in New York to stop ambulance surgeons from making "sidewalk diagnoses," in which they mistake all sorts of serious and hastily fatal maladies for drunkenness. The law forbids these hasty diagnoses, yet the surgeons in question will persist in making them.

The eleventh annual convention of the American Obstetricians and Gynecologists met in Pittsburg, Pa., on September 20 to 23. A large number of interesting and valuable papers were read. Dr. E. J. Ill, of Newark, N. J., was elected president for the coming year. Next year the meeting will be in Indianapolis, Ind.

The hospital car constructed for the Missouri, Kansas & Texas railway, at a cost of \$10,000, will be put in service on the road next month. The car has a drug-store, operating-room, wards, and an office for the surgeons. This hospital on wheels will make trips from Sedalia, Mo., to Texas, hauling employees who are too badly injured to ride in coaches.

General Breckenridge, according to a Lexington, Ky., report to a New York paper, charges the surgeons acting under General Sternberg with refusing to obey officers in command in accordance with instructions from General Sternberg. The latter declares the surgeons are subject to the command of the general in command of the division.

It has been ruled by the Treasury Department at Washington that the medical certificates which accompany the applications of persons who desire to take the civil-service examinations must be stamped with a ten-cent war-revenue stamp. The decision was made in accordance with a section of schedule A of the War act, which reads: "Certificates of any description required by law, not otherwise specified in this act, require a ten-cent stamp."

The Milwaukee *Wisconsin* says: Dr. Bennett, the city bacteriologist and food analyst, is paid \$800 a year now. Dr. Schultz asks that the salary be raised to \$1500 a year. The health-commissioner reports that the compensation paid to men doing exactly similar work in other cities is as follows: Pittsburg, \$3600 annually; Baltimore, \$5180; St. Louis, \$6400; Detroit, \$1500; Buffalo, \$4700; Cleveland, \$2800; Washington, \$3100; New Orleans, \$4000.

A Pittsburg doctor has brought suit against a merchant of that city for \$856, as due for services for treating the latter's catarrh. The merchant has retorted with another suit for damages, claiming that during a trip of 110 days

which the doctor took with him at his expense the doctor damaged him to the amount of \$10 per day, because when he should have been cared for by the said doctor the latter was off on fishing excursions. He also claims that he had to pay large sums to other doctors to overcome the results of the alleged neglect, and thinks that \$5000 would be a small sum for the trouble and expense he was put to.

The commission appointed to investigate the cause of the prevalence of typhoid fever in the various camps at last believes it has settled the vexed question. While the general public has been speculating as to why the soldiers suffered from typhoid fever and the War Department has been moving everything to discover and eradicate the cause, the fly has been getting in his deadly work, all the time unsuspected. Blame has been cast on the water-supply of the camps, on the rains, on the location of the camps, on the food, and on the surgeons, but hitherto the fly has escaped. But he has been discovered, and at last the blame has been placed where it belongs. It was the common, busy housefly that caused the typhoid fever in the camps and is directly responsible for the deaths of hundreds of brave soldiers.

A New York paper says that a novel contention is reported in Washington over sanitary regulations involving the damage done to property by the posting of signs announcing the presence of contagious diseases. In the case in question, after tenants had vacated a house which had borne a diphtheria placard, the owner was notified by the health-authorities to disinfect the premises. This he declined to do, and he was supported in his position by the Attorney for the District, who said, however, that the health-office authorities could disinfect for themselves. No action was taken by the health-officers, and meanwhile the placard remained, preventing the leasing of the premises, and the owner notified the district authorities that he would hold them responsible for his losses. For this the District was not liable, its Attorney said, but he advised the removal of the placard if the health-office was without means to disinfect the house.

In a report to the Interior Department by Special Agent Zeveley on the condition of affairs at the Hot Springs, Ark., reservation, is the following:

"By far the most serious question in connection with Hot Springs affairs, and the one which menaces the life and health of persons who go there seeking treatment, is the practice of drumming. There are drummers for three different businesses at Hot Springs, viz., drummers for bath-houses, drummers for hotels and boarding-houses, and drummers for the doctors.

"The most harmful thing, however, to Hot Springs, for the reason that it is the most dangerous thing for persons who go there for treatment, is the present system of doctor drumming. There are a great many doctors in Hot Springs who are notorious in the matter of having drummers for their business. The custom about this is that when a stranger or strangers arrive in the city or even long before they arrive in the city they are met on the trains and in towns more than 100 miles away from Hot Springs by drummers for these doctors. The drummers make the point, before taking the victim to the doctor, to ascertain, relatively, his financial standing, then to advise the doctor as to this matter, and the man is duly fleeced."

The New York *Sun* says that Dr. Lindheim, of the Eighth N. Y. Volunteers, who died of typhoid fever, was a victim of public hysteria for which sensational journalism was responsible. "At Chickamauga everybody spoke well of him, and nothing proved his indefatigable devotion to the sick more than his selection to take the invalided men of the Eighth Regiment home. The country ahead of him was ablaze with indignation over the reported neglect of the sick in every camp, and it really required moral courage for a man to hint that perhaps things were not so black as they had been painted.

"At Cleveland Dr. Lindheim was denounced because he would not consent to the transfer of several typhoid patients to a local hospital, and he was written and talked about very much as though he were an accessory to wholesale murder. His judgment was that it would be better for the sick in his charge to be carried right through to New York, where they would be among their own friends in hospitals which are certainly as well conducted as any in the country. No doubt there were patients on the train who found fault with the young doctor and poured tales of suffering into ears acutely and passionately sympathetic. Weakened by his unselfish labors among the sick, he fell a prey to typhoid fever. In his delirium he raved about the misrepresentation from which he had suffered. Investigation had already vindicated him. He is now dead, and it may be truly said that he gave his life for his country. The sick soldiers whom he brought North are well to-day or convalescent. The only victim was the man whose treatment and good judgment went far toward saving their lives."

The Ohio Medical University has had trouble with Dr. Baldwin, its chancellor. An attorney who is a member of the Board of Trustees presented the following to the Board:

To the Trustees of the Ohio Medical University:
I hereby file and prefer the following charges against J. F. Baldwin, chancellor and professor of operative gynecology:

1. He has persistently and wilfully violated his pledge and promise to this Board, made at the joint meeting of faculties and trustees on the — day of July, 1898, whereby he agreed with and promised the trustees and faculty to desist from further agitation of a union with Starling and the Ohio Medical University for at least five years.

2. He prepared and procured to be published, or conspired with others to prepare and publish against the university, its faculty and trustees the articles signed by "Medicus" in *The Lancet-Clinic* of Cincinnati of the 6th day of August, 1898.

3. He is in conspiracy with J. Dudley Dunham in pushing the attack made upon the Ohio Medical University by the charges filed with the State Board of Registration on Saturday, September 10, 1898.

4. He has by his aspersions upon character and qualification of various members of the faculty shown such a want of discretion and by his course of conduct such a lack of respect for and of acquiescence in the declared policy of the institution that he is unfit for any position in the university, and it will be detrimental to the university to retain him longer.

I therefore ask that he be expelled from the office of chancellor and from his position of professor of operative gynecology.

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No. 20

EDITORIAL

EPILEPTIC COLONIES

○ F the submerged tenth a very considerable proportion owe their submergence to the failure of development or to the perverted development of their nervous system. With the growth and increasing pressure of civilization and of centralization in cities the number of these unfortunates certainly tends to increase rather than to decrease, though if alcohol and the syphilitic virus could be banished from the earth the products of human degeneration would certainly greatly lessen.

Among these victims of circumstance none are more worthy of sympathy than those who suffer from epilepsy. The exact number of epileptics in the United States is unknown, but has been calculated to be about one hundred and thirty thousand, the calculation being based on the allegation that one in every five hundred has epilepsy, a proportion which we think an exaggeration. The attempt really to determine the number of epileptics in the United States is well worthy the attention of the general government, and in the taking of the census it would probably be easy to get fairly correct data. However this may be, every physician knows there are an enormous number of poor epileptics who

cannot take care of themselves. According to Dr. Frederick Peterson, some four hundred of the alleged twelve thousand epileptics in the State of New York are in insane asylums and six hundred in the county poor-houses. As epilepsy very frequently leads to mental degradation with a pronounced tendency to violence, a certain proportion of epileptics must always be maintained in institutions where discipline can be founded upon physical restraint; but on the other hand, the majority of epileptics are capable of enjoying life and should not be entirely deprived of liberty.

The first one to conceive and carry into practice the idea of the epileptic colony appears to have been a French clergyman by the name of John Bost, who, during the later part of the fifties, started such an institution in the village of La Force, near Lyons, but it was the success of Pastor von Bodelschwingh which demonstrated the great value of this method of taking care of epileptics. Twenty-five years ago he purchased a farm at Bielefeld, in the province of Westphalia, and with four subjects started a refuge which has grown into world-fame. At present many hundreds of patients reside in the colony; schools, work-shops, a dairy, a farm, a garden, studios, various stores, etc., afford remunerative labor and remove the ennui of existence.

A priori it should be expected that in the

daily society of those afflicted like himself the epileptic should in a measure forget the difference between himself and the ordinary human being, that in the association with his kind he should find in some measure a substitute for the family life from which he is debarred, that his self-respect should be preserved by the daily labor which suffices at least in part for his support, and that his physical life—sheltered from storm and temptation—should improve under the influence of moral rest and satisfaction, regular habits, and daily exercise in the open air. Experience has more than confirmed the brightest expectations, and Bielefeld has become a model upon which have been framed the successful epileptic colonies in Germany, in Switzerland, and in Holland.

In the United States, so far as we know, there are five epileptic colonies. It is true that there is at Gallipolis, Ohio, an institution which has occasionally been spoken of as an epileptic colony, but it is really a hospital for epileptics. As it has attached to it a farm of 100 acres it might well have been an epileptic colony, and we consider it a great misfortune for the State of Ohio that it was not so constituted.

Near Pittsburg there is a small colony, the Passavant Home for Epileptics, concerning which we have not much information. We understand that fifteen cases can be accommodated in it. A colony-farm for epileptics has recently been started in Sonoma county, Cal.

The two large institutions in the United States are the one situated at Sonyea, in New York State, really a State institution, and the Epileptic Hospital Colony of Pennsylvania, situated near Philadelphia, which is a private charity that has been to some extent assisted by the State.

Fifty years ago a community of Shakers purchased in the Genesee Valley nineteen

hundred acres of extremely fertile land. Thrifty and canny, the community flourished until the property was improved to the highest degree not only from a purely agricultural point of view, but by the development of quarries and the erection of thirty good buildings. The Shakers being celibates, no children were born to them to enjoy the fruits of their labors. Religious zeal died out, and the prospect of pecuniary ease has not been sufficient to overcome the irksomeness of Shaker customs, so that in 1892 only ten or twelve old members of the community were left. The State of New York accepted an opportunity to purchase the whole property for about one hundred and fifteen thousand dollars, and the Craig Epileptic Colony was started thereon. At present the epileptics number two hundred and sixty, and according to the last annual report over fifty per cent. of their maintenance has been earned by their labors. The effect upon the individual epileptic of the care received in this colony not only in diminishing the number of attacks, but also in raising the moral nature and increasing the daily happiness, is said to have been extraordinary; whilst now provision is being made by the putting up of laboratories and the employment of skilled scientific labor for the making of original investigation and the advancement of our knowledge of this dread disease. Certainly the State of New York is to be congratulated upon the wise spirit of its legislature in making the provision that it has for a most unfortunate and helpless class.

The Pennsylvania Epileptic Hospital Colony Farm is an upgrowth from St. Clement's Hospital for Epileptics, which was established in 1892. In 1895 some of the persons who were interested in the St. Clement's Hospital secured a charter for the Pennsylvania Colony Farm for Epilep-

tics, and in May, 1896, the two corporations were merged by a decree of court under the title of the Pennsylvania Epileptic Hospital and Colony Farm. A farm of 110 acres was purchased through the generosity of Miss Rebecca Coxe and Mr. Eckley B. Coxe, Jr., and Mr. Henry C. Lea gave \$50,000 for the erection of suitable buildings. The farm, which had been cultivated as a model farm, and was thoroughly equipped for the purpose, was very advantageously situated at Oakburne, two miles from West Chester. The buildings which were erected for the occupation of the patients consist of a central administration building, in which the superintendent lives, and in which are rooms for the matron and other officers of the institution, together with the laundry and bakery. On each side of the administration building is a cottage, one for men, the other for women. Each cottage has a capacity of about twenty patients. It is the purpose of the management not to place more than twenty patients in one building. The farm-life is maintained; the men work in the garden and fields and about the stable, the women are kept busy in the dairy and help in the care of the poultry. In the winter it is proposed to give the patients occupation by making them work at chair-caning, brush-making, tailoring, carpentering, and other forms of industries. There are now thirty-one patients in the institution.

So far there has been a marked improvement in the moral tone and the physical health, accompanied by a great lessening in the frequency of the epileptic attacks in every case that has been taken charge of. The amount of medicine given is said to be very small.

Until democracy is able to get that honesty and efficiency of government which seems at present denied to it the method of managing its charities adopted in the

State of Pennsylvania seems to us the best that can be devised. Private charities administered by Boards of Trustees, supervised by a State Board of Public Charity, assisted only from the coffers of the taxpayers when the rich philanthropists of the State are willing to give at least dollar for dollar: thus securing efficiency of administration and aid from the rich: upon this plan is based the epileptic colony of Oakburne. The State has aided it so far very little; no wiser or more needed charity exists in the commonwealth; assuredly at the coming meeting of the Legislature more will be done for it.

LET US HAVE A SANITARY REVIVAL

AT the present moment nothing is more needed in the United States than a thoroughgoing Moody and Sankey revival for the purification of the nation in a sanitary direction. Our foul streams are being made far more foul with the dejecta of our thousands of soldiers who have been mustered out of service and scattered to their homes in every corner of the country. Those who appreciate the terrible significance of this scattering so far as it affects the health and lives of our millions of fellow citizens are filled with unfeigned alarm at the possible and almost certain evil consequences that are to follow. It is as if thousands of incendiaries had gone forth all over the land with flaming torches to apply to every house that came in their way. What a conflagration would result. For houses put human bodies and for fire put disease germs and the two cases are fairly comparable. Despite this peril our legislators have not been appealed to for protection nor the public aroused to a sense of its danger. Like insensate phonographs we continually lisp out the cry that an ounce of prevention is worth a pound of cure, yet when that ounce

is needed no one is by to give it. Every city, every county, and every state should be aroused to a true appreciation of the danger and strict sanitary measures adopted without delay. Streets should be cleansed as they never were cleansed before, river-pollution with sewage should be checked with a vigorous hand, milk should be inspected and dairies looked after with unrelenting care, and public water-supplies should at once be subjected to thorough modern filtering processes. For all this, money is needed. To do this work money should have been supplied long ago and would have been if the public had been taught the necessity.

Our people raised millions of dollars at short notice for war with Spain because they were aroused to a red heat of patriotism. Now is the time to arouse them to a fervid appreciation of the necessity of their purging themselves and their country from a deluge of filth and from an enemy far more dangerous than Spain. Cannot our Boards of Health act now and act with a will by urging upon our legislative bodies the necessity for large appropriations for sanitary purposes? Never did our country need appropriations as badly as it does now and never were conditions more favorable for receiving them. Press the legislatures and press them with a will. Get the daily papers to take the subject up and add it to their sermons about the mismanagement of our camps, and let every journal in the land preach from the text of Dr. Wood and his grand work in Santiago. Arouse enthusiasm on sanitary matters. Show the people of the United States that what has been done for that one city can be done for every town, city, and hamlet in the land.

The sickness of our country bids fair to be doubled in the coming year. Our boards of health can not only check this prospective increase, but they can reduce

the amount to a fraction of what it usually is. Let the whole nation wash and be clean. At present we are filthy to a degree that but few comprehend. If all this cry of horror that has gone up at the death from disease of so many of our brave soldiers is not mere affectation and hypocrisy then it means that the public is willing to do its part to cut down an unnecessarily high death-rate by actions that speak a thousand times louder than words. If half the force that is being wasted in useless and senseless quarantine against yellow fever could be expended in practical sanitation by the different states of the Union, business could go on untrammelled, wealth could multiply unhindered, and the cost in dollars and cents would be less than what is now lost, while the horrible and unnecessary sacrifice of life that present methods foster would quickly cease.

Irrigation in Puerperal Infections

R. P. Tye (*Texas Cour.-Rec. of Med.*, June, 1898) considers we should irrigate as soon as the diagnosis is made, if possible within the first twenty-four hours; after two or three days of rapid absorption the chances of saving life are practically nil. We should not curet unless there is some special indication, and then we should do nothing more than remove any retained products; we should, if possible, not wound the mucous membrane. A uterine irrigator should be employed, and there should be an antiseptic solution or sterilized water. The Sims position is preferable, except shortly after confinement. For cases seen during the first three or four days, while the os is still patulous, the author recommends the following procedure: The patient is placed across the bed, her feet resting on chairs, and a tub beneath to catch the water. The vagina is washed out; then at least three fingers of the right hand are passed to the os. Then the irrigator is used and withdrawn, after which one or two fingers are passed into the uterus, the outer hand pressing the organ down from above. Placental tufts can be pulpified and rubbed off and the smallest particles of tissue can be felt and their character recognized. The author prefers a carbolic solution for irrigation; the bichloride solution is regarded as dangerous; weak rather than very strong solutions should be used.

AMONG THE EDITORS

DOES IT PAY A PHYSICIAN TO STUDY?

This is a simple question which apparently has but one answer, but a friend of ours recently took the negative side of the question and this is about what he said: "No, it doesn't pay. The people don't want a physician who knows things. They want a man who belongs to their church, to their lodge, a hail-fellow-well-met. He can make a show of learning, can write a prescription with a flourish, can assume an air of learning, and that is all that is needed. The man who puts in his time at his books, at his microscope, in his laboratory, gets left, and the physician who goes past his books and mixes with the people, is the man who coins the 'wherewith.'"

"Occasionally this successful man needs the consultation-services of the student, but just as often it goes to the man who has a like successful practice. It is dollars to doughnuts that the physician with a great big practice makes but few diagnoses and treats symptoms only. Why, it can't pay to study much. Whom can it pay? A side-light on the same idea came to me the other day. I have been for years using my microscope and with many a case it has given me some severe shocks. It has in fact discouraged me with certain cases and the patient has felt my discouragement. I find that I am using my microscope less than I formerly did. To find an abundance of tubercle bacilli in sputum, while the patient seems in the best of health and spirits, makes me down in the mouth and the patient finds a more hopeful doctor. Casts in the urine always frighten me and I warn the patient until he gets discouraged. No it doesn't pay to study and work in this profession. Specialists are now so numerous and consultations are so wanted by the people that I don't need to know much about the nervous system, nor about the alimentary canal, nor about the ear, nose or throat, nor about the kidneys, nor the heart or chest, and in fact unless I go to the country to practise, it is a waste of time for me to learn new facts about these things.

If I get a section of a tumor I am expected to turn it over to a pathologist; if I secure some peculiar fluid I am expected to send it to this man or that man for analysis and thus it goes and if I study on these things I only confirm the reports which I receive. No it doesn't pay. I can get ahead better by reading novels and going to church socials and balls."

Our friend got up, lit a cigarette, and said, "good night, I am due now at an executive committee meeting of 'The Royal Peacocks of the Purple Shadow.'"—*Colorado Medical Journal*.

MEDICAL LEGISLATION AGAIN

The Supreme Court of New York State has recently decided what the editor of this journal has continuously held, that "Christian Scientists" and consequently the numerous similar types of mental and spiritual "healers" are entirely unamenable to the demands of the New York or any other State medical-practice act. In fact, there exists no law that can be constitutionally construed to cover such cases, and if it did exist and were so construed, its enforcement would be successfully resisted by the public. As we well know, it is only by sufferance that the present laws are permitted to remain on the statute-books, for the reason that they are publicly looked upon as wholly legislation in the interest of the medical profession, and as such merely a type of special or class legislation, that is viewed with repugnance by the people at large. Men and women generally consider themselves perfectly capable of choosing their medical advisor, and the higher the legislative standard set the lower they seem to choose. We are of course ready to admit that if a choice were compulsory as amongst graduates in medicine only, a coercive law as to educational qualifications would be of value; but so long as the latent mystery surrounding life and death admits of such ethereal remedial constructions as are entertained by so large a number of even well-educated and well-meaning people they will serve to veil sinister methods, and outwit even the most wary, to say nothing of the light of incompetency in which they show up all laws to suppress the incompetent. It is

a sad commentary on the boasted enlightenment of the age that so many of the highly educated are the most visionary. This in itself would not prove so bad, were it not for the fact that these are also the most energetic and actively persistent not only in the maintenance of their views, but in the subjection of all conception of individual rights to the purpose.—*Peoria Medical Journal*.

SCIENTISTS FOR REVENUE ONLY

We cannot let the occasion pass by without both remonstrating against the peculiar workings of our patent laws and reprehending the avarice which has suddenly seized upon some of the benefactors of mankind. We appreciate the value of these laws in stimulating scientific progress, but the justice which permitted the grant of a patent upon diphtheria antitoxin to Professor Behring we cannot understand. Credit is not denied him for a part in the development of this remedy, but it is true that neither the remedy was original with him nor the principle of it which has been known and variously applied since Jenner's time, and without the help of Klebs, Loeffler, and Roux, who shared with him the prize of the French Academy of Science and others, it is not conceivable that Behring could have had any part in it. Aside from the bold assumptions he has made his conduct is deserving of the severest criticism. It is now reported also that Sanarelli has sold the right of making the antitoxic serum of yellow fever for a large sum and a royalty. If this disposition continues to be asserted, the profession may as well throw its ethics to the wind and confess at once its mercenary character.—*Physician and Surgeon*.

A BLUNDER OR A CRIME

"It is worse than a crime, it is a blunder."
—TALLEYRAND.

Those of us who are fond of history and literature will remember that Madame Roland as she was about to die exclaimed, "O, Liberty, Liberty, how many crimes are committed in thy name!" and we feel as if in these days it would be well to paraphrase this sentence by the substitution of the word *Science* for Liberty, for it is a fact that Behring and his agents have applied for and

received patents which are designed to give him sole control of the manufacture of the antitoxin of diphtheria. For years the original investigators of the German laboratories have deserved and received the admiration and respect of the scientific world because of their devotion to science for its own sake. For years the great teaching institutions of the world have sent their best young men to the German universities in order that they might receive that spirit of scientific ardor which, like the touch of the king's sword, raised the servitor to knighthood, and this self-sacrificing spirit was perhaps the most important part of the benefit of a foreign trip. The rank commercialism of the present day has, however, entered those institutions of learning which have heretofore been above reproach, and we find that Behring's scientific reputation is to be shadowed by venality and greed.

This, however, is the least important part of this subject, and the scientific investigations of other equally reliable, and more ethical, men, which have led to the possibility of Behring's work, are to be used as stepping-stones for his benefit. Far more important is the question as to what influence the success of this application for a patent will have upon the lives of many hundreds of patients in the course of every year. Had equal commercialism governed Jenner, how many thousands of individuals would have died of smallpox, and what would have been the effect upon the universal limitation of the disease to-day had such an ethical error been perpetrated? Even though the life of the patent would have lasted but a few years, incalculable harm would have ensued.

So far it has been taken for granted, in part at least, that Behring has a legal right to this product. This is not the case. Others had utilized the same principle years before he did so, and the literature of medicine teems with the papers of those who are in great part his leaders in the discovery of diphtheria antitoxin. Nor is this all, for his rights are so uncertain that other governments will not issue protective papers to his monopoly, and only our lax American laws permit him to obtain a patent.

There are times when the physician must,

like our New England forefathers, leave the ploughshare of practice for the fight, and this is one of them, for it is a struggle of the rich and the poor against a terrible scourge and a strong monopoly, and the voice of the medical profession should be raised in no uncertain tone against this outrageous instance of grasping greed. Such greed often overreaches itself, and the profession should remember that the Höchst Farbwerke, formerly Meister, Lucius & Brüning, who are the active agents in this matter, are dependent in large degree upon the favor of physicians. "To what base uses have we come at last?" if we can be used by such persons as the tools by which their dividends are paid? And are we as citizens of this great country and members of an equally great profession to sit quietly by while our scientific birthright is taken from us? *Caveat emptor*, let the buyer beware, of those who seek to practise the imposition.—*Therapeutic Gazette*.

MEDICAL POLITICIANS

It is said that the American Medical Association Sessions are managed by medical politicians who come there with everything cut and dried for the election of officers. They seem to be a distinct sect, who attend but for one purpose, and come from the Southwest. This is about as it is in all bodies of this kind, and it is the reason why many of us prefer to stay away or decline to join such associations. The politician is the enemy of civilization and of human progress, and the world would be better if he did not exist at all. Strike him down!—*Medical Times*.

THE RIGHTS OF HUMANITY IN REGARD TO AUTOPSIES

How often do we see appended to the report of what might have proven an instructive case, the words, "The parents (or the friends) would not allow an autopsy."

Now, in our opinion, the relatives and friends have no moral right to decide that question, and we should not be compelled to consult them, excepting as a matter of courtesy.

When an individual consults a physician he expects that physician to have a thor-

ough knowledge of the science and art of medicine. Yet he must know that such knowledge is impossible without the examination of the bodies of innumerable individuals who have died of disease. Has he any right to claim the benefits of science while denying it the legitimate means of growth?

By organization into states and nations we acquire and enjoy the benefits of civilization. But by such organization we also necessarily relinquish some so-called individual rights for the common good. The nation reserves the right to conscript and take the father or son from his family and expose him as a living target for bullet and shell in defense of the country against an army foe.

How much more just, then, that it should have the right to take and thoroughly examine the dead body (which can no longer be harmed) for the purpose of instructing and assisting those whose duty it is to guard the living against our ever-present foe—disease. After such examination by physicians whose scientific training exalts their reverence for the human body, the corpse is relinquished to the friends, in no way injured for its only remaining legitimate purpose—interment or cremation.

On account of the exaggeration of the disposition to guard the bodies of women and children (for manifest reasons) permission to hold autopsies is especially hard to obtain in these cases. Yet how very much might be learned from almost every case by physicians qualified to interpret the conditions found.

It has been our observation that the unreasonable objection to autopsies prevails almost entirely among the ignorant and superstitious. People of true enlightenment not only are usually quite willing to permit suitable examination, but very frequently anticipate the needs of science and the wishes of the physician by suggesting an autopsy.

Indeed many of them go so far in their own individual cases before death as to offer their bodies to scientific institutions for whatever useful purposes they may serve after death.—*Medical Council*.

CURRENT TOPICS

EUTHANASIA

Dr. Mapes (*Med. Age*, Vol. XVI, No. 15, 1898) says much of the terror and alarm popularly associated with the conception of death is attributable to ancient superstitious beliefs, which prevail and dominate in the minds of all classes, alike educated and ignorant; therefore modern writers should deal plainly and truthfully with the subject, let the results be what they may.

It would mark a material advance in both science and religion could people be made to believe the truth, viz., that death is not so painful, agonizing, terrorizing, as pictured from the pulpit and elsewhere. While the intelligent application of advanced medical and surgical possibilities has rendered acute and painful diseases more endurable, while death itself has been robbed of a few supposed terrors, when applied to victims of chronic, incurable diseases and deformities, the modern disciples of Esculapius are for the most part as helpless as were those of ancient times.

In incurable maladies palliation merits especial consideration, for in numerous chronic and painful diseases and deformities what can be accomplished except palliation? Individuals suffering from incurable affections often long for relief in final dissolution, yet death will not come. When all known palliative measures have been exhausted and nothing except death would alleviate suffering, still the slender thread cannot be artificially severed without incurring the guilt of homicide. After a long period of waiting for natural death, unable to endure the prolonged suffering, a fatal draught is taken, and the victim passes into the unknown—a suicide. And can he be blamed therefor? He was ready to welcome death, but it would not come; restoration to health was impossible; he was a burden to himself and those with whom he came in contact; death would have been merciful in visiting him, was anxiously looked and longed for, but its visit was delayed beyond the point of human endurance.

When such an individual has concluded to end earthly existence; when all hope for restoration to health has vanished; when science has been repeatedly invoked in vain; when life is no longer bearable, and when it has become a burden to all concerned; when death would be welcomed; it would seem an act of human kindness to administer—when earnestly requested to do so

by the patient, his family, and friends—a fatal potion of some effective poison which would quietly induce the beginning of that endless sleep! But the law, by which the nation assumes to be governed, states that such an act would be murder, as it recognizes but two conditions under which the taking of human life is justifiable, viz., punishment for capital crime and in legitimate self-defense. Such is the law, but the law is not always right; many things legally right are morally wrong, and *vice versa*. It would appear that the wisdom of adopting a system of euthanasia hardly admits of reasonable doubt in the minds of those who should be interested in the welfare of humanity, although the sentimentalist will argue against the adoption of such a plan so long as the world stands.

Those who have had the misfortune to witness "death by inches" in inoperable and incurable disease can appreciate the suffering entailed so long as the unfortunate remains conscious; those who have listened to the patient's entreaties for anything to end suffering can realize the physical and mental torture endured; those who have heard such an unfortunate implore the approach and embrace of death can appreciate that euthanasia with an appropriate system, under proper legal and other restraint, which would be necessary to guard against possible abuse, would be a boon to humanity. S.

SOME RELATIONS OF AUTHOR, PUBLISHER, EDITOR, AND PROFESSION

George M. Gould (*Bulletin of the American Academy of Medicine*, Vol. III, No. 2) read a paper before the American Academy of Medicine on May 29, 1897, on the above subject in which he limits himself to the relations pertaining to the publication of serials. An author's writings and illustrations in books are protected by copyright laws well understood, but for serial publications authors receive from the lay publisher no payment. That is, the profession lends its original scientific serials to a non-professional publisher, who legally appropriates and uses the loan and may even refuse the lender any subsequent use of the loan. Under the copyright law a publisher cannot prevent abstracting, but often an illustration is the best method of abstracting, and to make quotations is sometimes better for both author and publisher. Therefore the right to quote and to copy journal-illustrations should be guaranteed by law. The right of publication of articles in medical journals is in all justice and ethics simply of the nature of a temporary loan. Pub-

lishers making use of the copyright law, devised for different purposes and conditions, to divert such serials to their personal and permanent gain, act against medical ethics and scientific progress. The first publisher should find his profit in the earliest publication—merely in the priority—which is found to be abundantly remunerative. Why should physicians have to pay finally the lay publisher for republication of his gratuitously given articles? Any restraint on the greatest circulation of these articles is an injustice to the authors. His right to so use them might well be tested in court to determine the question by the highest legal authority.

Scientifically, a physician contributes to medical literature to make known to his fellows what he has discovered or proved of value to humanity in the cure of disease. This must be his dominant motive. Any attempt to exploit it for selfish gain we stigmatize as contemptible quackery. The lay publisher's attempt to limit the dissemination of medical literature is exactly the same in principle. The editors of American medical journals have with great unanimity and self-respect spoken out against one notable attempt made to limit medical progress by preventing the classification, condensation, and spread of serial professional literature.

The author further advises the courteous allowance of the use of electros to other publishers at a fair and just valuation, even when they are desired to advocate opposing theories. The profession can settle the question of medical truth: it will forgive medical error, but it will not forgive medical discourtesy. The commercial use of the review columns of medical journals ought also to be frowned down. H.

HEREDITY

A. L. Benedict (*Med. Times*, Vol. XXVI, No. 7, p. 193), emphasizes the following beliefs: 1. Much of what is commonly ascribed to heredity should properly be credited to infection, environment, or even chance. 2. True heredity deals with general and acquired traits, rather than with disease, which is essentially foreign to the organism. 3. On account of the vast number of ancestors involved, the introduction of fresh blood by intermarriage and the crossing of hereditary tendencies from one sex to another, there is, on the whole, a tendency to reversion to general characteristics and to purification from taints. 4. A disease, to be hereditary, must depend upon some intrinsic physiologic or anatomic abnormality and not essentially

on infection; if it manifests itself before the period of reproduction, the tendency must disappear either with the destruction of the family or by the superior force of the normal tendencies; if it does not interfere with reproduction, it is still amenable to hygienic precautions. 5. The only intelligent knowledge of heredity must come from a close study of genealogy, carried on impartially and without the present unworthy incentives. L.

PROGNOSIS IN HEART-DISEASES, WITH REGARD TO LIFE-INSURANCE

Dr. C. T. Williams concludes an article on the subject as follows (*Med. Exam.*, July, 1898): In considering the question of accepting or rejecting applicants affected with heart-disease, attention must be paid to the following points:

1. Age, both present and at time of attack.—Cardiac lesions that appear at 20 are more likely to improve than those coming on after 40, and the greater the age of a candidate, the less probability there is of complete compensation.
2. Sex.—Women are less liable to aortic valvular disease than men. Men are less subject to mitral valvular disease.
3. Occupation and Surroundings.—Whether these are the same as those under which the cardiac disease was contracted, and whether they are likely to be temporary or permanent.
4. Habits, such as the presence or absence of alcoholism, excess of tobacco-smoking, or the use of certain drugs.
5. Origin of the cardiac disease, whether in endocarditis or pericarditis, or as the result of degenerative processes.
6. The nature of the lesion, and specially whether it is progressive or stationary.
7. The amount of compensation established to overcome the difficulties of the circulation.

Careful study of the histories of persons affected by the various heart-lesions has shown that a longer life is compatible with the existence of many of them than was formerly held, yet in the absence of large records it is impossible to reduce the probabilities in all cases to definite figures, and the subjoined conclusions can only be regarded as approximations to assist the medical examiner in his work, which must, after all, be directed to the circumstances of the candidate under examination and to his surroundings and outlook:

1. Cases of adherent pericardium, provided there are no valvular lesions, that the muscular walls are sound, and that there is no cardiac dilatation; also that the adhe-

sions are not to the chest-wall itself, may be accepted with a moderate addition of from three to five years.

2. Mitral-regurgitation cases, where the origin is not degenerative and the compensation good, and where there are no dyspnea and complications, can be accepted with an addition of from five to ten years, according to the age of the candidate.

3. Cases of mitral stenosis are less favorable, being liable to cerebral embolism, and can only be accepted if the disease is not progressive, if there is no accentuation of the second sound, no enlargement of the right side from either dilatation or hypertrophy, and no dyspnea. They can then be accepted on less favorable terms than cases of mitral regurgitation. Double mitral lesions, however, can only be considered with very large additions.

4. Aortic valvular disease, whether regurgitant or obstructive, cannot, as a rule, be admitted into the category of assurable lives; though favorable instances, where the lesions originate in rheumatic endocarditis and the compensation is complete, have been occasionally with large extras.

5. Cases of cardiac dilatation, without compensation, cannot as a rule be accepted at all, except when the dilatation is of a temporary nature, such as may follow over-exertion and over-smoking, but even here the case cannot be considered until all dilatation has subsided.

6. Cases of cardiac hypertrophy must be estimated with reference to the modes of causation, and no definite rule can be laid down, though lives where the lesion giving rise to the hypertrophy is not progressive, the muscular wall in a sound condition, the compensation complete, the vessels healthy, may be regarded as within the pale of life-assurance, as, for instance, athletes who have given up sports, and women whose cardiac hypertrophy originated in frequent pregnancies, but are now past child-bearing. Here the lives may be accepted with an extra, varying with the age.

7. All forms of degeneration of the cardiac walls, fibroid and fatty, must be excluded, and vigilant watch kept against their admission.

8. All forms of cardiac neurosis are not equally dangerous, but they are too uncertain in their clinical life-history to allow of being admitted among the assured. R.

Dr. Black (*Phil. Med. Jour.*) recommends the following in acute nephritis:

Hydrargyri Chlor. Corrosivi.....	grn. $\frac{1}{4}$
Potassii Iodidi.....	grn. xx
Syrupi.....	3i
Infus. Gentianæ.....	3vij

S.: Teaspoonful 3 times a day. R.

ORIGINAL PAPERS

SERIOUS VALVULAR LESION OF THE HEART WITHOUT RHEUMATISM

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ALTHOUGH every physician recognizes that rheumatism is not an invariable precursor of heart-disease, it is conceded to be the most common cause of endocarditis and, hence, of valvular lesions that have passed the inflammatory stage and, ultimately, of circulatory failure with its train of pathologic processes in many organs. The following cases are of interest as showing the possibility of the development of a high grade of cardiac lesion, without rheumatism, trauma, syphilis, Bright's disease, or other obvious cause and without the existence of an acute endocarditis with symptoms sufficient to attract the attention of the patient. No attempt has been made to exclude or to include measles, scarlet fever, diphtheria, parotitis, chorea, etc. These diseases usually occur in childhood, they are very frequently misnamed, overlooked, forgotten, or apparently remembered when they have not existed. Measles has been declared to be a very common cause of heart-disease; on the other hand, it has been stated that this declaration rests on a misconception of a functional blowing murmur in childhood or on imagining a murmur to exist when there is really nothing but the exaggerated heart-action often noted in children. Chorea is undoubtedly connected with certain forms of heart-trouble, but it is questionable whether the latter is inflammatory or due to spasm of the papillary muscles, columnæ carneæ, etc. At any rate, it is a comparatively infrequent disease and is apt to be confused in personal history with other convulsive or tremulous conditions. The qualification must be made, in regard to this series of cases, as in all similar cases, that our only information as to possible remote etiology rests on lay information. All of these patients, naturally enough, came under my observation on account of some digestive disturbance and, except in No. 2

and No. 5, this was really the most important practical manifestation of disease and the one requiring the most attention, although in none was the problem worked out in detail nor of especial difficulty. No attempt will be made to report the cases in full, indeed I shall ignore for the most part the symptoms and treatment which were of most immediate interest.

No. 1. P. B., aged 60, German, meat-packer, could remember no sickness since childhood, and no abnormality except habitual constipation, till three months ago, when he began to cough and to vomit occasionally, principally mucus, untinged with bile. Physical examination revealed M. O., M. R., A. R., with water-hammer pulse and enlargement of the heart and liver. Let me say in parenthesis that I locate the heart mainly by auscultatory percussion, relying also on the position of the apex and using ordinary percussion only occasionally, and then mainly to keep in practice. The decision between hypertrophy and dilatation is purely a functional matter, resting on the state of the pulse, of the capillary circulation, of the general strength of the patient, etc. Myocarditis and degenerations I do not pretend to diagnose, though they may be guessed at occasionally and though the clinical term dilatation may be used with the mental reservation that post-mortem investigation may demonstrate a well-marked degeneration. As to nomenclature of murmurs, the name of the valve is followed by the term obstruction (or direct) or regurgitation, as the case may be.

The liver-area by auscultatory percussion extended from the lower part of the third intercostal space to a line two inches below the costal arch, the latter limit being verified by palpation. As is to be expected in hypertrophic sclerosis, the right lung was consolidated, showing dullness, bronchial breathing, and bronchophony from the level of the seventh dorsal spine downward, posteriorly. The spleen was of the size of a fetal head, barely palpable below the costal arch. The stomach was slightly enlarged. The urine contained a trace of albumin and only a moderate amount of indican. It was concentrated so that urates were deposited on cooling. Only five or six grams of urea were eliminated in twenty-four hours. Subsequent examinations, under treatment, showed the absence of casts and the albumin and precipitate of urates disappeared. Thus, I believe we may exclude a nephritic origin of the heart-disease. The patient died after a month; no autopsy was allowed.

No. 2. W. B., aged 65, German, oiler in

railroad yards, was seen in consultation with Dr. J. J. Cullinane. There was no history of previous disease except pain in chest and cough for three or four years. Rheumatism was specifically denied and, even if we grant the rheumatic nature of the thoracic pain, it does not represent the type of rheumatism from which cardiac complication would be expected. Three months ago he was compelled to stop work; he returned to work for a few days and then again took to his bed. The murmurs present were A. R., A. O., M. R. The heart was dilated one inch to the left of the nipple, to the upper border of the third rib, while the right border was normal. The spleen extended from the seventh to the twelfth rib, being double its normal size. The liver was normal in area, the stomach a trifle dilated. Albumin and sugar were reported absent from the urine. The patient died in a short time; autopsy was not allowed.

No. 3. J. M. T., aged 36, German, proprietor of store, was first seen at the office, May 13, 1897. There was no history of previous sickness, his first intimation of anything wrong being a rejection of application for insurance some months before. A little later he began to vomit occasionally but had not considered himself sick till within three months, complaining of choking and shortness of breath, the vomiting having meantime disappeared. The patient had consulted a number of physicians, some diagnosing thoracic aneurism. Murmurs corresponding to A. R. and A. O. were audible and the heart reached the second intercostal space, a point three centimeters outside the nipple-line, while the apex-beat was in the sixth space. There was no tracheal tugging, the radial pulses were alike, also the common carotid; there were no pupillary nor laryngeal symptoms; although the murmurs were very loud and coarse and widely transmitted, it did not seem to me that there was anything in the nature of an aneurismal bruit; there was no expansile thrill palpable. The loudness of the aortic murmurs interfered with the diagnosis of others. Later examinations revealed the presence of all possible regurgitant murmurs, as well as A. O., M. O., was as distinctly absent. As P. R. is usually spoken of as a purely theoretic lesion, I would say that, in a number of examinations, it was impossible to hear a valvular click, anywhere over the heart, hence the inference that all the valves allowed regurgitation. It was repeatedly observed that on placing the stethoscope over an artery, e. g., the radials, ulnars, dorsalis pedis, cervical vessels, there was transmitted a loud,

abrupt, and short systolic noise. In conversation with Dr. Hoover, of Cleveland, I mentioned that arterial sounds were sometimes considered to signify aneurism, which I did not believe to be present here. Dr. Hoover called my attention to the very plausible theory that such a sound indicates atheroma of the aorta, the loss of the normal elasticity of this vessel allowing the blood to pass through the arteries with nearly the same degree of shock with which it normally leaves the heart. Corwin, in his little work on physical diagnosis, has tabulated considerable information concerning stethoscopy of the arteries and says, "Over the crural, brachial, radial, and ulnar arteries, and even the peroneal and dorsalis pedis, a murmur may be heard with the pulse in the respective vessels, in some cases of aortic insufficiency." While accepting the literal truth of this, it seems to me a non-sequitur. Certainly, in the great majority of cases of aortic regurgitation, such a murmur is absent; moreover, the regurgitation takes place after the sound has been produced, so that it seems more reasonable to regard the aortic leakage as an accidental circumstance, so far as this particular phenomenon is concerned. In the present case it would be a misuse of terms to call the knocking sound a murmur.

This patient lived till April 15, 1898, manifesting an extraordinary cardiac power, being much of the time without medicine and attending to business almost to the end of his life. The urine, which had shown a faint band of albumin at first, soon became clear. Toward the last, albumin reappeared, with epithelial and granular casts. It does not seem that the nephritis antedated the heart-disease. Autopsy not allowed.

No. 4. C. M., aged about 50, does not belong in this series, but is introduced apropos of auscultation of arteries. He had had rheumatism and showed cardiac dilatation with a very coarse, loud, double aortic murmur, sounding very much like a saw moving back and forth through soft wood. The diagnosis was confirmed by another physician. After resting in bed this double murmur completely disappeared, so that a most excellent clinician doubted the existence of aortic lesion. Autopsy established its genuineness. Rest in bed makes so much difference with heart-sounds that I am accustomed to warn students that in office-patients, who are still exercising and whose arterial circulation is under strain while the venous return is aided by muscular contraction, the aortic second sound will probably be accentuated, while, in patients examined in ward-class, the arterial strain is at a minimum while the venous

return is unassisted by extracardiac forces, hence the strain is more directly felt by the right heart and the pulmonary click is apt to be louder. Not long ago I was nicely caught by an interne. Being asked to report on the condition of a heart, with reference to the advisability of an operation, I pronounced it free from murmurs though marked by a peculiar coarseness of valvular sound and somewhat enlarged. The doctor then referred to an old record of the same patient—whom I had not recognized—and showed me my diagnosis of M. O. After having the patient throw out the arms several times, this murmur could be distinctly heard, but only for a few heart-beats, when it would disappear till the movements had again been made.

No. 5. M. S., aged 37, German, engaged in housework at home, was referred to me mainly on account of a painful affection, suspected to implicate the left kidney. She had had, within a few months, Alexander's operation performed unsuccessfully, and, later, an intra-abdominal operation on the round ligaments. M. O. and considerable enlargement of the heart were plain. There was an atypic water-hammer pulse. Whether A. R. existed or not, I do not know, my opinion wavering from one examination to another. There was slight asynchronism. Although the patient had occasional fainting spells, she continued in very fair general health, performed a considerable amount of quite hard work, underwent several examinations with reference to the condition of her pelvis and kidneys, some under chloroform, and recovered from an operation for nephropexy. Nearly two years have elapsed since I first saw her and she is still in fair general health. In addition to her other troubles, she had a moderate dilatation of the stomach, as determined by auscultatory percussion and the writer's fluoroscopic test with capsules containing opaque but harmless chemicals.*

No. 6. Mrs. W. H. G., aged 26, of German descent, housewife, married five years, one child two years old. This patient consulted me on account of dizzy spells, with vomiting. Her physician, a man of large experience in obstetrics, had referred her trouble to a large, subinvolted uterus, which he wished to curette. At my first visit I did not examine the uterus but subsequently made out a tumor, quite high in the right side of the pelvis and rather freely movable. It did not seem to be closely attached to the uterus. This tumor was

*This patient has recently been seen. A. R. cannot be made out. The kidneys are in place but the subjective symptoms have not been relieved by operation. There is obtained a history of rheumatism in shoulder and legs five years ago, not severe enough to interfere with work.

ellipsoidal, about 3x2x2 inches. The cervix was not softened and the uterus did not seem to me larger than it frequently is in parous women. I took the liberty, however, to advise against immediate curettage, and to urge close observation, thinking there might be an extra-uterine pregnancy. The stomach was slightly enlarged, the liver, spleen, kidneys, appendix, gall-bladder were normal by external examination. The heart was enlarged to the left, the second pulmonary sound was accentuated and there were M. R. and A. O. murmurs. My care of the case was interrupted by a miscarriage at the third month, which was a surprise to her physician, as well as to myself. Leading questions, since this occurrence, have elicited a fairly typical history of morning sickness, which was not obtained at the first examination. Even with the benefit of hindsight, I cannot explain the pregnancy except as occurring in a cornute uterus. Menstruation had not been interrupted. The tumor which I felt and moved, high up, to the right, disappeared after the miscarriage and I can detect no change in the cervix. Her physician does not accept my suggestion, nor does he offer one in its place. Under cardiac medication, strophanthus, digitalis, and, most important of all, strychnine, and some digestive aid, the patient has made marked improvement in the five weeks of attendance.

These five cases (omitting No. 4) are intended merely as illustrative of a number in which we are aware of a missing link in the chain of cause and effect. It is by no means uncommon to find hospital or dispensary patients who have led lives of hardship and who present a mitral regurgitant or aortic obstructive murmur, without giving a distinct history of rheumatism. But that is rather different from observing serious, multiple valvular defects, with cardiac enlargement and, at least, beginning of failure of compensation, in intelligent patients who have led lives of comfort—with the partial exception of No. 2, and for whom we can gather information from friends and relatives. Only No. 2 could be considered as a senile case—65. No. 1, aged 60, had broken down suddenly from disease and, without the circulatory disturbance, would have been a fairly young man, physically. The remaining cases occurred in young persons. Occupation could not be considered a cause, except in No. 2, and this man protested that his work had not

been arduous. None of the men had been total abstainers from liquor and tobacco; none had been inebriates, nor steady, hard drinkers. It seems hardly possible that the lesions noted could have dated back to a forgotten or dimly remembered disease of childhood; it is equally difficult to imagine them, according to the commonly accepted view of valvular disease, as the remains of a comparatively acute endocardial inflammation. Such an endocarditis, it seems, must have prostrated the patient, at least for a few days, and such an occurrence could scarcely slip the minds of patient and family. Especially true is this of patients of this class, midway between the idleness of luxury and the idleness of thriftlessness. The men were of the kind who boast that they never have lost a day's work. If this reasoning be correct, these five cases—and others for which they stand—must have developed gradually, without acute endocarditis, without toxemia sufficient to attract the patient's attention, without a marked dyscrasia of any kind. The blood was examined only for No. 3 and No. 5, but without marked abnormality. The last theory is not an attractive one; it ascribes an element of danger to the average, correct life of civilized man; it forces the admission of lack of information on our own part when we can not even explain the origin of a disease whose existence is manifest.

Rare Foreign Body in the Bladder

At a meeting of the Medical Society of Magdeburg, Dr. Hobs (*Munch. Med. Woch.*, p. 804, 1898) demonstrated a foreign body which he removed from a man's bladder by operation. The body consisted of a nail twelve centimeters (five inches!) long, which the man had introduced into his urethra about ten months previously, and which slipped into the bladder. Around the nail there had formed a stone of the size of a hen's egg, which consisted of phosphates, and of which the points was imbedded for about an inch in the vesical and paravesical tissue. Lately the man had suffered severely from purulent cystitis and incontinence of the urine. After operation permanent catheterization was kept up for three days, then the bladder was injected twice daily and the man made a rapid, uninterrupted recovery.

R.

SELECTED PAPER

ACUTE PNEUMONIA OF CHILDHOOD.

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ACUTE pneumonia bulks largely in the mortality of children in this and other countries. The disease, not only on account of its frequency, but from the varied and complex nature of its clinical features, is one of great interest. In recent years much has been done to elucidate the subject, both from a clinical and pathological standpoint. Bacteriology has contributed largely to our knowledge of the disease. Its etiology, whether in the adult or the child, is essentially the same, and yet how dissimilar are the clinical pictures at the different periods of life. I purpose to give a short outline of our present knowledge of the disease as met with in early life, based mainly on hospital experience during late years.

Looking back to the earlier writings on the subject, and the observations of such men as Valleix, Billard, Trousseau, and Bouchut, we find wonderfully accurate accounts of the symptomatology of the disease, and also a description of the naked-eye appearance of the lungs on section, in its various forms. From want of pathological knowledge based on microscopic investigations, these older authors vainly tried to classify the pneumonias in different ways. Legendre, Barthez, and Bailly divided them into two varieties, based upon the possibility of inflating the lungs, and applying the hydrostatic test. The more modern division of the disease into lobar and lobular varieties still holds good as a general and rough classification; but is only serviceable as giving us an idea of the extent of the disease, and the general physical condition of the lungs, without affording any information as to the real pathological condition. In the present day, it is wonderful how microscopic investigation and bacteriological research have cleared up and simplified our knowledge of the subject. Quite a flood of light has in recent years been thrown in upon the disease, and its infective nature pretty clearly established, so that a new classification of the various morbid conditions met with, according to our present knowledge, would seem to be called for. The rôle which micro-organisms play in the disease, if not the main factor, is certainly a very important one, as without doubt the toxemia resulting

from their growth and development would appear to be not only the main factor in the production of the constitutional symptoms, but often the principal cause of danger to life. It is a well-known fact that in pneumonia the constitutional symptoms are often out of all proportion to the severity or extent of the local lesion in the lung. The frequency of cerebral symptoms, which often occur when only a limited portion of lung is affected, such as the apex, are often associated with profound toxemia. Other effects of the toxin on the nervous system often manifest themselves, particularly on the heart-centers, where rapid death may take place from heart-failure, due apparently to this cause, rather than any direct action of the poison on the heart-muscle, although the effect of a high temperature, before the crisis, no doubt tends directly to weaken the heart itself. Another cause which appears to produce heart-failure has been lately pointed out by Bollinger,¹ who has noticed the occurrence of oligemia, due in part to the drain from the blood resulting from the exudate; and in this connection he notes that leucocytosis is a favorable prognostic, as indicating new blood-formation. Another point of interest with reference to the rôle played by organisms in the disease is in regard to its type and duration. In pneumococcus pneumonia the disease is of short duration, and the crisis generally well marked; whether this be due to the fact that the life-history of this organism is a comparatively short one, or that an anti-toxin is more rapidly produced than in the case of many micro-organisms associated with other forms, we do not as yet know.

CLASSIFICATION.—The most rational and scientific mode would seem to be that founded on the pathological anatomy and bacteriology of this disease, as shown in the annexed table. Recent bacteriological investigation shows that quite a number of organisms are found associated with this disease. Netter² gives the bacteriology in forty-two cases—in twenty-five primary cases Friedländer's coccus or pneumobacillus was found in ten; streptococcus in eight; staphylococcus in five; Fränkel's capsuled coccus in two. In seventeen of the cases there was mixed infection; thus in five, pneumococcus and streptococcus; five, streptococcus and staphylococcus; three, streptococcus and capsuled coccus; two, pneumococcus, streptococcus, and staphylococcus; one pneumococcus and capsuled coccus. Similar results were ob-

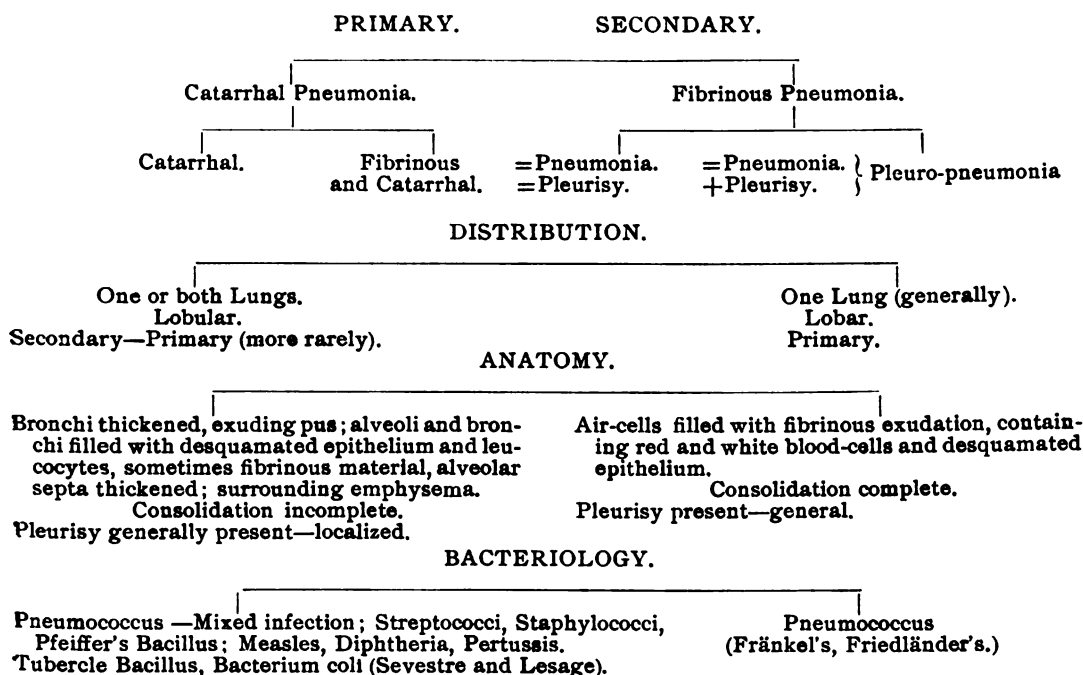
¹ *Münch. med. Woch.*, 1895, Bd. xxxii.

² *Arch. de Méd. nav.*, Paris, January 1892.

tained by Durck,³ who also demonstrated that pneumococcus was the organism most frequently met with. Mosny⁴ and Netter both agree that in cases marked by lobular distribution, streptococcus was usually met with alone or with pneumococcus; whereas those in which the distribution was lobar, catarrhal and fibrinous variety combined, one or other of the forms of pneumococcus, either Fränkel's or Friedländer's, organisms were generally found alone. In secondary pneumonias the micro-organisms are still more numerous and varied, according to the nature of the primary disease, and associated with the organisms peculiar to the primary disease, others, such as streptococcus, staphylo-

diseases, such as pertussis, measles, scarlet fevers, erysipelas, and typhoid, similar results have been obtained, and in most of these diseases streptococcus was the predominating organism. Bacteriology thus demonstrates that the pneumonia of infancy can in no sense be considered a specific disease, in the sense that it is due to any special organisms, as similar, if not identical, pathological changes are produced in the lung-tissues by various organisms. Grancher⁷ in his treatise says: "The bacteriology of bronchopneumonia is very complex . . . depending on numerous pathogenous organisms, for whereas fibrinous pneumonia is associated almost invariably with pneumococcus, catarrhal

ACUTE PNEUMONIA.



coccus, and pneumococcus are met with, showing a mixed infection. Meunier⁵ has investigated a large number of influenza pneumonias, in all of which Pfeiffer's bacillus was present, along with, in most cases, other organisms. In bronchopneumonias of intestinal origin, both Sevestre and Lesage have demonstrated the presence of the *Bacterium coli commune*. In like manner, M. Darier,⁶ who has investigated diphtheria pneumonias, and many other secondary forms, has found in the case of diphtheria Löffler's bacillus, either alone or associated with other organisms. In other

pneumonia is produced by a great variety of infections."

PATHOLOGICAL ANATOMY.—In fibrinous pneumonia in the earliest stage there is simple engorgement, with congestion of the muscular network of the alveoli, the lung being still vesicular. This soon passes into the stage of solidification in which the air-cells become filled with fibrinous lymph and embryonic epithelial cells from the walls of the alveoli, as well as colored blood-cells and leucocytes. To this stage succeeds that of gray hepatization, the fibrinous network begins to disappear, and the leucocytes show signs of

³ *Deutsches Arch. f. klin. Med.*, Leipzig, 1897.

⁴ *Thèse de Paris*, 1891.

⁵ *Arch. gén. de Méd.*, Paris, 1897.

⁶ *Compt. rend. Soc. de biol.*, Paris, 1885.

⁷ "Traité des maladies de l'Enfance."

commencing fatty degeneration. Fibrinous pleural exudation shows itself in the second stage, and is most copious when the third stage is reached and the lung becomes absolutely solid and non-vesicular. The pathological anatomy of catarrhal pneumonia presents a different picture. The lung is not solid but vesicular throughout. The surface, however, shows isolated lobules, or groups of these, prominent and of a purplish color. Pleurisy is either absent or present, generally in localized areas. On section, the lung soon becomes of a scarlet color, the surface shows irregular small areas of lobular consolidation of a more or less grayish color, and when the finger is passed over the surface Hamilton describes the feeling like that of a frog's spawn. On squeezing the lung, catarrhal fluid exudes from the smaller bronchi and also from the inflamed lobules. Microscopic examination shows the air-cells filled with mucous fluid and cellular elements. These cells are found to be germinating epithelial cells, which are rapidly thrown off from those of the alveolar wall and fill up the alveolar spaces. The older epithelial cells desquamate and rapidly undergo fatty degeneration. The whole process is essentially a catarrhal one. While the morbid conditions just briefly alluded to in the two forms are sufficiently distinct, the true fibrinous or lobar consolidation rarely presenting much variation, in the catarrhal variety the appearances are not always of such a typical nature; in many cases a condition akin to splenization taking place in groups of lobules, or larger areas forming more or less solidified lung. On microscopic examination in these cases, the lung shows, in addition to the catarrhal process, more or less exudation of red and white blood-cells into the alveoli and intestinal tissue, small blood-extravasation being often visible underneath the pleura. In these cases the walls of the minute bronchial ramification are much thickened and infiltrated, and emphysema surrounding the affected lobules is generally met with to a greater or lesser extent in this form of the disease.

Of 142 cases of acute pneumonia in hospital-practice in which recovery took place, 107 showed clinical features of a catarrhal nature, 35 of a fibrinous nature. In eighty-three of the catarrhal cases the disease ended by lysis, in twenty-four by crisis. In those of a fibrinous nature, thirty-five in number, one ended by lysis, and thirty-four by crisis. Both lungs were affected in fifty-three cases, one lung in eighty-nine cases; in nineteen, the right apex; in nine, the left apex—twenty-eight in all. The base was affected in twenty-seven,

thirteen the right base, fourteen the left base. Mid-lung was affected in thirty-five, twenty-two on the right side, thirteen on the left.

CLINICAL TYPES.—Based on the classification already given, two principal varieties may be noted, and each of these may be subdivided. Primary acute pneumonia is usually epidemic in its visitation, sporadic cases occurring at times, as in all other infectious diseases. The epidemic nature of the disease is well brought out in hospital-practice, groups of cases being met with within short periods, at other times the hospital-wards being free from the disease. It is highly probable that the disease is more or less infectious under certain circumstances, but in my hospital-experience I have not been able to obtain sufficient evidence to adduce proof of this. During the last six months, in the Royal Hospital for Sick Children, we have had a large number of cases, illustrating all the different types, from acute infective bronchial catarrh to the fully developed disease, showing either the fibrinous form with lobar distribution, or the lobular form more or less distributed through both lungs. With reference to acute bronchial catarrh, without any clinical evidence of involvement of the alveoli or capillary bronchi, my experience points to the occurrence of these cases more or less frequently during pneumonia epidemics. The clinical features of such cases show sibilant rhonchi and crepitant râles in the larger and medium tubes, with a temperature seldom rising above 103 deg., the cases generally ending by crisis or rapid lysis within a week or ten days, when the child becomes convalescent and gets rapidly well. None of the cases observed ending fatally, and no expectoration being procurable, I have been unable to determine the nature of the organism causing the disease, but the probability of pneumococcus-infection seems most likely.

Fibrinous pneumonia.—This form shows two well-marked varieties, one in which the pneumonia is a prominent factor, the other in which pleurisy predominates so as to mask the pneumonia to a great extent (pleuropneumonia). In both forms pleurisy is generally distributed; in the first variety, the ordinary lobar pneumonia, the pleural exudate is minus, and in no way obscures the well-marked typical signs of lobar consolidation. On the other hand, when the fibrinous pleural exudate is very copious, the signs of lung-consolidation are less prominent, those of pleural exudation more so; the breath-sounds being less distinct and the dullness remaining long after the crisis, the case becoming more or less

chronic in its duration and ending by lysis. The occurrence of empyema is a well-known sequel of fibrinous pneumonia in children. Fibrinous pneumonia is a much less fatal disease than catarrhal pneumonia, and is almost invariably primary in its nature. It pursues a well-marked and typical course, ending in crisis at the end of a week, and is essentially a pneumococcus-infection, usually attacking previously healthy children. The pulmonary exudate is essentially fibrinous in its nature; the distribution of the disease, lobar and sharply defined in one or other lobes of the lung, contrasting markedly with the diffuse and irregular distribution of the catarrhal variety.

Catarrhal pneumonia, or bronchopneumonia.—The former term seems preferable, as indicating the pathological nature of the morbid condition. Whereas fibrinous pneumonia is almost invariably a primary affection, this disease is either primary or secondary, statistics showing that the two varieties are met with in almost equal proportions. The primary cases show either a pure pneumococcus-infection, or several bacteria may be found. The secondary infections are various, and generally mixed, streptococcus being the most frequent organism. Reference has already been made to the nature of the other infections. This is essentially the pneumonia of infancy, being much commoner at the earlier than the later periods of child life. It is much more fatal than fibrinous pneumonia, and is a disease of indefinite type and duration, coming on insidiously, in marked contrast to the sudden onset of fibrinous pneumonia. The pathological changes in the minute bronchi and alveoli are essentially catarrhal, but in a large proportion of cases a fibrinous exudate complicates the catarrhal process. The pathological changes in the lung are irregularly distributed, generally in both lungs, and the lesion not sharply defined as in the purely fibrinous form, the physical signs of bronchial catarrh being usually present. The duration of the disease is quite indefinite, varying from ten days to many weeks, and resolution is slow, with a tendency to chronicity. Relapses are not infrequent. When the case becomes chronic, interstitial changes take place in the lung, and tuberculosis may ultimately complicate the disease. Pleurisy is generally present to a greater or lesser extent, and is locally rather than generally distributed. Empyema may result from pneumococcus, streptococcus, or mixed infection.

SYMPTOMS AND PHYSICAL SIGNS.—

Fibrinous form.—The clinical features of this form are so well defined and regular, and so well known, that I shall only make passing allusion to them, preferring to dwell more fully on those of the catarrhal, as being more interesting and difficult to appreciate. The onset of fibrinous pneumonia is sudden, often ushered in by vomiting in place of rigor, more rarely a convulsion. The temperature soon runs up to 103° or 104° , and remains without much variation till the fifth or seventh day, when a crisis takes place. Should this not occur, it is an indication either of further involvement of the same or opposite lung, or some other complication, often extensive pleural effusion (pleuropneumonia). The physical signs of this form of pneumonia

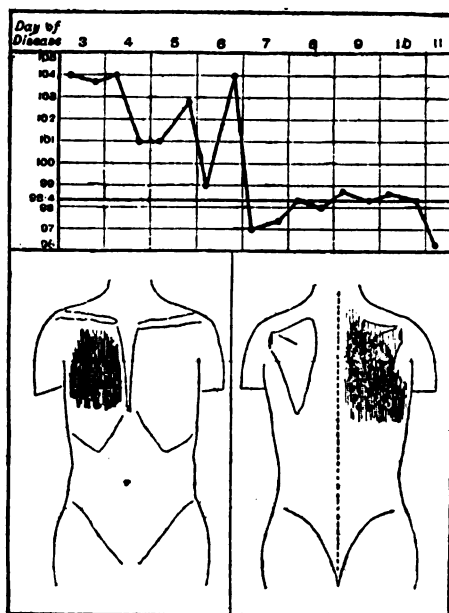


FIG. 1.—P. G., æt. 6; fibrinous pneumonia

in a typical case are distinct and constant.

The percussion-note becomes rapidly impaired during the process of consolidation over the affected area, the note over the non-affected portions of lung and in the opposite lung often showing hyper-resonance. The auscultatory signs are first those indicating pulmonary congestion, high-pitched but distinct respiratory murmurs; sometimes, however, the breathing may be so distant as to be scarcely audible. The true characteristic crepitation, heard only at the end of the inspiratory act, may or may not be audible. If heard, it may only be detected for a few hours, after which all moist sounds disappear. When consolidation becomes complete, bronchial breathing is audible, as air has ceased to enter the affected portion of the lung. The vocal resonance is increased

and of a bronchial character. Friction-sounds may or may not be heard. As resolution takes place, the respiration becomes less bronchial and more vesicular, with coarse crepitant râles (*redur*). Although this regular development of physical signs is the rule, it not unfrequently happens that the signs are delayed, and when detected, perhaps not till the crisis

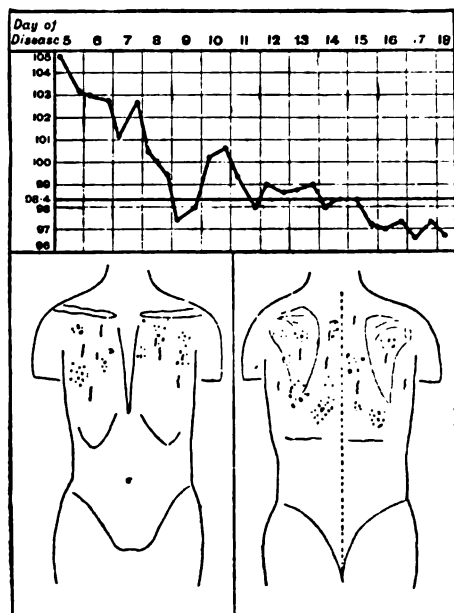


FIG. 2.—R. S. F., æt. 2½; primary catarrhal pneumonia

has taken place, are very limited and out of all proportion to the constitutional symptoms, showing that the general pneumococcus-infection really constitutes the disease more than the local condition; hence the applicability to this affection of the term pneumonic fever.

Catarrhal form.—This is essentially the pneumonia of infancy. The question why a similar infection should produce in an infant a catarrhal pneumonia, and in a child over five years of age or an adult a fibrinous pneumonia, is of much interest. The answer is not far to seek. The infective micro-organism attacks the most vulnerable part of the respiratory tract, which in an infant is the minute bronchi and alveoli of the lung. A little consideration of the developmental processes going on in the infant lung elucidates this. From the investigations of Northrup and others, it has been shown that in the late fetus, at five months, the alveoli have not yet appeared; the ultimate bronchial ramifications end in a loose connective tissue, which later on becomes thinner and stronger, and in which the vascular network is distributed. Over this, flat epithelium soon becomes developed, and can ultimately be differen-

tiated from the columnar variety lining the minute bronchial ramifications. It is not until the fourth or fifth year that the delicate tissues constituting the alveoli of the lung are fully developed. Prior to this time the air-cells are much smaller than in the adult, their walls relatively thicker, the interstitial tissue being larger in amount. The blood-vessels of the alveolar walls are likewise very abundant. The connective-tissue cells in the stroma and also the epithelial cells are very numerous and readily proliferate. Such being the anatomical conditions of the infantile lung, it becomes evident that a ready explanation is afforded of the pathological conditions produced by disease in those delicate growing tissues; the greater vascularity of the walls of the alveoli and the abundance of their epithelial contents, the immature nature of the cells, and also the cellular elements of the interstitial connective tissue, forming a group of anatomical conditions possessing less immunity to the infective process than any other portion of the lung-tissue.

The symptoms and physical signs form a marked contrast to the constancy and regularity of those of fibrinous pneumonia,

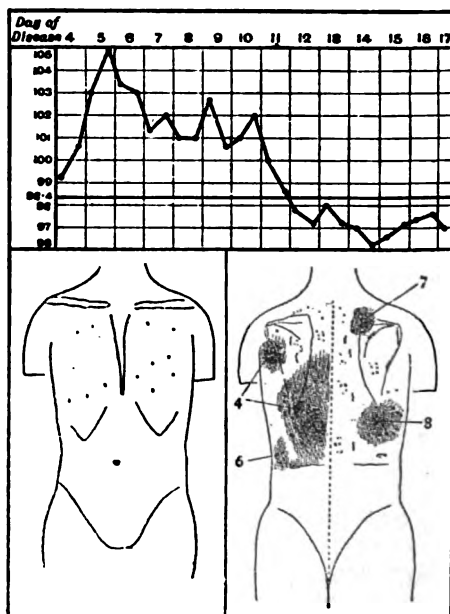


FIG. 3.—A. G., æt. 18 months; primary catarrhal pneumonia

pure and simple. Grancher⁶ introduces his description of the clinical picture of this form of the disease by generalizing its features in the very apt terms, "multiplicité, complexité, mobilité." In order to appreciate the varied nature of the clinical characters of the disease, it is necessary to premise that there are three pretty distinct

⁶ Op. cit.

varieties—(a) Those without signs of consolidation; (b) with small areas of consolidation (lobular distribution); (c) large areas of consolidation (lobar distribution).

I shall first refer to symptoms, and then describe shortly the physical signs by which we are aided in recognizing the nature of the disease.

Symptoms.—These are much more constant than the physical signs, and show a marked similarity in all the varieties, and a common ground, enabling the physician with tolerable certainty to arrive at a diagnosis without the aid of physical signs. When the child is stripped and inspected, it is noticed that there is more or less respiratory embarrassment and probably cyanosis, the *alæ nasi* are in active motion, and the respiratory movements altered, showing more movement of the chest-walls than normal in the young child, with more or less inspiratory retraction at the lateral bases and diaphragmatic insertion. The pulse respiration-ratio is perverted, the respiration running up to sixty or eighty per minute. The temperature ranges from 102° to 104° or higher, and is of an irregular type. With such a group of symptoms you may predict with tolerable certainty that the auscultatory signs will reveal the presence of catarrhal pneumonia.

Physical signs.—These vary infinitely, according to the physical conditions of the lung. It may at once be stated that auscultation is the means by far the most reliable of diagnosing the pneumonic areas, percussion, except in large areas, being unreliable, for various reasons hereafter to be noted.

It is well known to pediatricians that some of the most severe and dangerous cases of catarrhal pneumonia, such as those seen after measles or in acute tubercular infection, present no physical signs of consolidation of the lung. Clinically, these cases may be divided into several varieties. I have already alluded to the first variety, a pneumococcus or mixed infection of the bronchial tubes without evidence by physical signs of implication of the air-cells. This runs an acute course, ending in crisis or rapid lysis. In these cases the physical signs are those of ordinary bronchitis, and need not be further alluded to. The ordinary forms in which all the branches of the bronchial tree are involved, as well as the alveoli, may be either primary or secondary. Here the temperature-chart exhibits the usual type of acute catarrhal pneumonia, with the rapid respiration and cyanosis. The percussion is generally

resonant. The auscultatory signs are sibilant rhonchi, with coarse and fine crepitant râles, more or less distributed over one or both lungs. Over certain areas of the lung, where the alveoli are most affected, finer râles are heard in corresponding portions of lung. These râles are highly characteristic to the practised ear, being audible chiefly during the whole of the inspiratory act, but frequently during expiration as well. They take their origin in the minutest bronchial ramifications and alveoli. The general character of the respiration in these cases is vesicular, but owing to the congested condition of the lung, the breathing is often feebler than normal.

The second variety, where the distribution of the pneumonic areas is lobular, is characterized by signs indicating localized

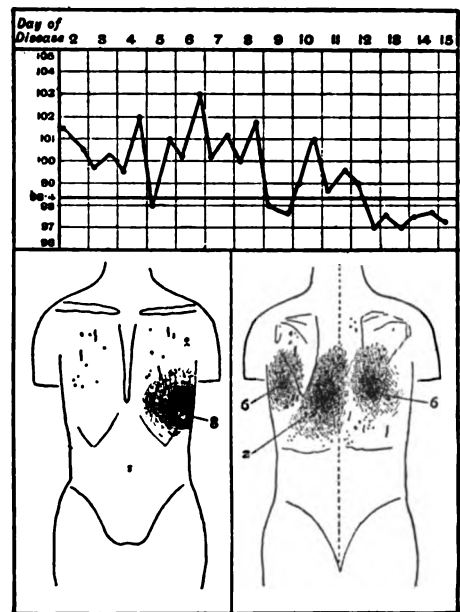


FIG. 4.—E. W., *et.* 5; primary catarrhal pneumonia

consolidation in patches varying in size. Even in this variety the information gained by percussion is often unreliable. Auscultation, on the other hand, soon detects the site of the affected portions of the lung. In using the stethoscope in these cases, every inch of ground, so to speak, must be gone over, in order to detect the locality of the pneumonic area. Sometimes these are so small as to be included only by the end of the stethoscope; if the instrument be moved away from the spot, the characteristic signs are lost. These small pneumonic areas tend to enlarge and coalesce with other and neighboring patches, so as to form larger consolidations, over which the physical signs become more and more distinct. The percussion-note is more or

less impaired over the affected portions; in proportion to the size of the areas involved, and their proximity to the surface. In some cases there is little or no impairment of the percussion-note, owing to the surrounding healthy lung-tissue; and if there be much emphysema, the note may be even hyperresonant in places. It will thus be evident that in discovering these small lobular distributions of affected lung, the stethoscope must mainly be relied on. It is often difficult to impress on students, in discussing this form of pneumonia, the necessity of eliminating dullness on percussion as a reliable or constant physical sign. The auscultatory signs over the affected portions are bronchovesicular breathing, with increased crying resonance, and moist sounds of the same character as those described in the former variety, with this difference, that sometimes over the centre of the affected lobular areas there are few or no râles, the accompaniments being more numerous and distinct towards the peripheral parts. The vocal fremitus is either unaltered or slightly increased.

In the third variety, with larger areas of affected lung and lobular involvement, the physical signs are more distinct and easily appreciated. In many cases there may be some difficulty, by physical signs alone, in distinguishing the consolidation from a purely fibrinous one; but, taking into account the general features of the case otherwise, the presence of bronchial catarrh, the incompleteness of the consolidation, for it must be remembered that in catarrhal pneumonia the alveoli contain more or less air, the distinction may easily be drawn. In the lobar consolidation of catarrhal pneumonia, the dullness gradually shades off, and is not so sharply defined as fibrinous pneumonia. Crepitant râles are usually present during the entire course of the disease, and the dullness on percussion is less marked; in fact, it is usually very incomplete, in proportion to the extent of the auscultatory signs.

Enough has been said to show the extreme variations in the physical signs in catarrhal pneumonia; but taken along with the general symptoms, there is little real difficulty in determining the true nature of the case.

Before I refer shortly to the treatment of acute pneumonia, a word may be said as to the terminations of the disease. In the fibrinous form recovery takes place in about 95 per cent. of the cases; in the catarrhal form the mortality averages probably about 60 per cent., this being largely due to the fact that this is the form which

attacks children under two years of age, that a large proportion are secondary cases, and that complications are more numerous, and the tendency to chronicity and ulterior destructive changes in the lungs frequent. When this form of the disease becomes chronic, tubercular infection is also apt to occur. The destructive changes in chronic bronchopneumonia are generally of an interstitial nature, ending in fibroid changes. Empyema, although not so frequently met with as in the fibrinous forms, is by no means uncommon. It is most frequently of a localized nature, sometimes very limited, only containing a few drachms of pus. Such small accumulations, when detected early, are easily and successfully treated by aspiration alone. One of the most annoying and frequent complications of bronchopneumonia is intestinal catarrh, which often proves troublesome and intractable.

TREATMENT.—As yet we have no special treatment for acute pneumonia. The antitoxin has not yet been discovered, but this is a line of research well worthy of attention. All we can do is to treat each patient according to the special needs of the case, meeting symptoms as they arise by rational means. In all cases hygienic measures, including diet, are all-important. The patient should be in a well-ventilated room of mean temperature. I find a tent-bed invaluable, hung round inside with wet towels sprinkled with eucalyptus or creosote, or other antiseptics. In very severe cases, with much cyanosis, the inhalation of oxygen mixed in the air of the tent often proves of signal benefit. The dieting should be conducted on the general principles applicable to all febrile affections—light, easily digested nutriment, in such quantity as the patient can digest. Over-feeding is harmful as likely to bring on vomiting and diarrhea, which are complications always to be dreaded. Continuous and routine poulticing is now discarded, poultices being used, as other therapeutic means, according to the necessities of the case. A stimulating sinapism, occasionally applied all over the chest for half an hour or an hour, is often very serviceable, this being replaced by a pneumonia-jacket of Gamgee tissue; when the temperature is high and the skin is not acting, a moist continuous poultice of soft flannel and jaconette, moistened with boracic solution, is very grateful to the patient. By keeping up a local as well as general diaphoresis, relief is given to the engorged lung, whose blood-vessels are in a state of hyperemia and permanent dilatation, the cutaneous blood-vessels, which

are in the opposite condition of high tension, being thereby relieved.

Drug treatment.—As no drug yet known has any special influence on the disease, we must treat the patient by endeavoring to assist nature in her efforts to maintain a compensatory physiological balance in the functional activity of the various organs. In the reference already made, in regard to dieting, I have indicated the necessity of due attention to the digestive functions. The respiratory embarrassment can be best relieved by keeping up a continuous local and general diaphoresis, as already indicated. This should be assisted by the exhibition of non-depressing diaphoretics, such as liq. acet. ammoniæ and sp. etheris nitrosi, a combination which has well stood the test of experience. The nitric ether is most valuable in relieving the general vascular tension apart from that of the lung. Alcoholic stimulants are of great value, especially in bronchopneumonia. They must be administered in suitable doses, according to the exigencies of the case and the state of the pulse. Next in importance as a stimulant I regard strychnine. The indications for its use are similar to those of alcohol, and it may be given with advantage at the same time. I regard it as of more value in the acute respiratory affections of children than in adults, on account of its action on the cardiac respiratory centers and cardiac ganglia. In children it is well known that the nerve-tone is more rapidly lowered from acute disease than in adults, hence the great importance of anticipating this by the timely use of such a remedy.

The use of belladonna, in certain cases of acute respiratory affections of infants, is one of the most striking therapeutic facts I know of. The cases in which it is indicated are those, particularly of infants, attacked with acute congestive bronchial catarrh in the early stages. It is well known that in these cases there is a great respiratory embarrassment, due partly to the congestive conditions, which is accompanied by more or less bronchial spasm and collapse of the lung. Its action in soothing the afferent and efferent nerves in the bronchial walls, and stimulating the respiratory center, is most marked. It has no beneficial effect in the later stages where the alveoli are involved, but its timely use in the earlier stages of the disease is attended with striking results. My remarks on the drug treatment of acute pneumonia would be incomplete were I not to refer to digitalis, and I only do so to condemn its use as a *routine* remedy. I do not for a moment undervalue the importance of em-

ploying this drug in cases where its use is clearly indicated—feeble pulse with weakness of the left ventricle and diminished arterial tension; such conditions obtain occasionally but not frequently in the advanced stages of acute catarrhal pneumonia. In fibrinous pneumonia with large lobar consolidation, on the other hand, the condition of the arterial system clearly contra-indicates its use. The state of the blood-vessels in the affected part are those of distension and paralysis, the systemic arterial circulation being in a high state of tension, with an enfeebled and distended right heart. In such cases we have no proof that digitalis has any power in restoring the tone of the blood-vessels in the affected part. It cannot act on the right heart without more powerfully, on account of the greater muscular area, stimulating the left ventricle to congest the affected lung by “diminishing the vascular area” (Loomis). Heart-failure in lobar pneumonia, as I indicated in an early part of this paper, would appear to be due to two principal causes—the depressing effect of the toxins on the nervous center, and of a high temperature on the heart-muscle. If this be so, there are no indications for digitalis, but rather for such remedies as act directly by stimulating the nerve-center on the one hand, relieving the local hyperemia on the other. I believe that local and general diaphoresis, occasional purgation, and remedies which stimulate the cardio-respiratory centers, are the most appropriate means of combating this condition.

Antipyretics.—The use of large doses of phenacetin or antipyrin are in my experience not useful, often harmful, in both forms of pneumonia. In small doses, however, they are often of service in allaying nervous irritability and restlessness. In hyperpyrexia we must trust to the wet pack, or tepid bath, or the application of cold by ice-bags, or otherwise.

Expectorants.—I regret to find that even yet in these more enlightened days, such remedies as ipecacuanha, tartar emetic, and squills are still prescribed by some physicians. There is no indication that I know of but a distinct contra-indication for their use. Children suffering from pneumonia require rather stimulation than the exhibition of depressing remedies such as these.—*Edinburgh Medical Journal*.

Dr. Durando-Durante (*La Méd. inf.*, No. 7, 1898) reports two cases of Raynaud's disease in children of syphilitic parents. The gangrene in both cases reached a very great extent, and they, of course, terminated fatally.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

A Case of Intestinal Obstruction Due to Meckel's Diverticulum

C. P. Gildersleeve (*Med. News*, 1898, N. Y., LXXII, 392) reports a case of intestinal obstruction due to the twisting of a Meckel's diverticulum. The attack began with pain and cramp of such nature as to justify the diagnosis of appendicitis. The symptoms, however, grew rapidly worse and the patient died about twenty-four hours later. The autopsy showed "complete obstruction of the ileum caused by a Meckel's diverticulum, which had become so completely twisted upon itself that it was mechanically impossible for its contents to return to the ileum. The diverticulum terminated in a fibrous cord which formed a complete ring through which the ileum passed." T.

An Antidote to Rhus-poison

Dr. A. T. Hudson (*Med. Rec.*, Vol. LIV, p. 173) says that a solution of ammonium chloride—one ounce to two quarts of warm water—is an excellent curative and prophylactic application in poisoning with the various species of rhus. The solution is applied with cloth or absorbent cotton, and covered with oil-silk or rubber tissue. He cites cases in which the application afforded prompt relief and a speedy cure, after other remedies proved ineffective. R.

Diseases of the Lachrymal Passages, their Causes and Management

Dr. L. Connor concludes a paper with the above title with the following summary (*Jour. Am. Med. Assn.*, July 2, 1898):

1. Among the predisposing causes of diseases of the lachrymal passages are such defects of structure as flattening of the bony canal or other irregularities, and defects of refraction.

2. Syphilis, gout, phthisis, scrofula, or any of the infectious diseases may cause lachrymal disorder.

3. Among the local causes are conjunctivitis at the upper end of the lachrymal passage, and nasal disease at the other end, the morbid process in either instance spreading to the canal nearest.

4. In the management of any case the

constitutional disease must not be overlooked; especially gratifying are the results furnished by antispecific treatment.

5. All defects of refraction should be corrected under a mydriatic, and muscular equilibrium assured.

6. Diseases of the conjunctiva and eyelids, as well as all nasal disease should be removed.

7. The treatment of the lachrymal passages with aseptic solutions through small syringes, or the forced working by Gould's method, and the systematic external use of hot water, contribute to better results in all forms of these disorders.

8. The puncta should be rendered pervious, and their position against the eyeball assured by local treatment if possible, or, this failing, by operation, so that the ends of the canaliculi may be fully within the lachrymal lake.

9. Strictures should be located by probes and either dilated or divided by instruments, the extent of the operations depending upon the nature of each special case.

10. Cases treated early in the disease give uniformly good results; those attended with large destruction of tissue are less hopeful, the epiphora often remaining in spite of treatment, but they are protected against the danger of future attacks by dacryocystitis. R.

Creosote in the Treatment of Phthisis

Dr. Lamplough offers the following conclusions from a study of a hundred cases treated with this drug (*British Med. Jour.*, May 28, 1898).

1. The best beechwood creosote can be given with benefit, in amounts varying from 120 to 240 minims daily, in cases of pulmonary tuberculosis.

2. The drug is best administered in cod-liver oil or in a spirituous solution, and in some cases the "creosote chamber" or oronasal inhaler may be ordered in addition, with advantage.

3. The dose should be small at first, but it can be rapidly increased to forty minims three times daily for an adult. In three cases doses of thirty minims three times a day were well borne by children.

4. Large doses rarely cause any gastric disturbance; on the contrary the appetite is frequently increased, symptoms of dyspepsia disappear and cod-liver oil is more easily assimilated. The cough, expectoration, and night-sweats are diminished, and the physical signs improved.

5. Owing to its disinfectant action in the alimentary canal the drug probably diminishes the risk of tuberculous enteritis by self-

infection when patients swallow their sputa, but owing to the increased peristalsis which is created by creosote, it is usually contraindicated in cases where the ulceration is already advanced.

6. The drug does not tend to cause hemoptysis, but it rather tends to prevent its recurrence.

7. Creosote does not irritate the normal mucous membrane of the genito-urinary tract.

8. Owing to its extremely small cost, pure creosote can be given to a much larger number of patients than the carbonates of creosote and guaiacol, which cost respectively four times and twelve times as much as creosote. R.

Sanitarial and Auxiliary Treatment of Pulmonary Tuberculosis

Dr. J. E. Stubbett (*N. Y. Med. Jour.*, July 30, 1898) says that he treats about an equal number of cases of pulmonary tuberculosis in the sanitarium and outside, and he is convinced that the sanitarium patients are doing better than those treated outside. Of patients treated in sanitariums about 86 per cent. improve, and only about 58 per cent. in those outside. As regards the auxiliary treatment, the author summarizes the results obtained in 200 patients as follows:

1. The largest percentage of good results of auxiliary treatments have been derived from antitubercle serum, both as to immediate results and to future immunization. The advantages of the serum are: (a) It does not tax the functions of digestion nor produce gastritis, diarrhea, or loss of appetite. (b) In cases where the bacilli have disappeared they have been lost while sputa were still present, whereas in creosote cases the last specimens of sputa contained bacilli. (c) Up to the present time no relapses have occurred among the patients declared cured by the serum-treatment; they have occurred occasionally in the patients treated with creosote.

2. Ichthyol is efficacious in a larger percentage of cases than creosote. For tuberculous patients this drug is best given in the form of enteric pills (keratin-coated). It is especially indicated in cases showing intestinal complications, the results obtained being much better than those from creosote or any of its derivatives. One case is especially instructive. Patient had far-advanced, pulmonary lesions, with secondary deposits in the intestines; seven or eight watery evacuations a day, with tenesmus, general abdominal tenderness, tympanites, etc.; could not tolerate any preparation of creosote. Keratin-coated ich-

thyol pills were given him, and in a short time the evacuations were reduced to one or two a day, and tenderness became localized at one point.

3. Hot-air inhalations are of great value in certain cases. The temperature of the machine should range from 340° to 550° F. They are of most value in cases of mixed infection; before using them in any given case there should be a careful laryngeal examination of the throat and microscopical examination of the sputa. Combined with oxygen these inhalations give great relief in many cases of pleurodynia and asthmatic dyspnea, and in profuse and purulent bronchorrhea. Streptococci, staphylococci, and diplococci are often diminished under this treatment. Hemoptysis and scanty expectoration seem to be contraindications.

4. The results of treatment and sojourn at a good sanitarium in cases of laryngeal phthisis show flattering results, proving the advantages of sanitarium treatment for this grave disease.

5. Where creosote is indicated, Merck's should be used in capsules with bismuth subcarbonate. R.

Cyclic Hematuria in Children

Dr. Durante (*Jour. de Méd.*, April 10) has had under observation several cases of hematuria in children. Repeated examinations excluded the possibility of organic disease, tuberculous or malignant growth, and the author explains the hematuria as due to simple idiopathic renal hemorrhage, analogous to epistaxis. The cause may be a defect in the development of the capillary walls. R.

Primary Lateral Sclerosis in a Child Five Years Old

H. N. Moyer (*Phila. Med. Jour.*, Vol. I, No. 17, p. 744) reports a rare case of the foregoing presenting a pure type of the affection. The symptoms coincide with the classical grouping of primary lateral sclerosis—a spastic gait, exaggerated tendon-jerks, and ankle-clonus. There were no atrophy, no ataxia, and no cerebral symptoms. The writer suggests the possibility of other symptoms developing later in the progress of the affection, but with the symptom-grouping now present no anatomical diagnosis is possible excepting primary involvement of the crossed pyramidal tracts. In the case above referred to, the child could walk readily, and even run imperfectly, but there was marked stiffness of both lower extremities, especially the left. There was no change in

sensation—nor was there any impairment of station nor ataxia of movement. The pupils and ocular movements were normal, intelligence intact, and the child unusually bright for his years. There was no disturbance of the general health up to the beginning of this trouble. The family history is free from neurotic heredity. L.

Diagnostic Points in Cholelithiasis

Dr. Steinthal considers the following points of value in deciding as to exact condition of the gall-bladder in cholelithiasis (*Deut. med. Woch.*, No. 13, 1898).

1. An attack of biliary colic with or without jaundice, if the patient had passed any stones during a previous attack, points toward a gall-bladder filled with many little stones.

2. Attacks of colic with or without jaundice, if no stones had ever been passed by the patient point toward a single large stone or one large obstructing stone and several small ones.

3. Attacks of colic without jaundice, if it is certain that no stones were passed before, point to a single stone in a diverticulum of the gall-bladder.

4. An attack of colic without jaundice and the passing of a large stone point toward an abnormal communication between the gall-bladder system and the intestines.

5. If the attacks of colic are accompanied by elevation of temperature, it points to inflammation with the presence of pus. R.

Effects of Compressed Air upon the Human Ear

John C. Lester and Vincent Gomez (*Arch. of Otol.*, Feb., 1898) give results of their investigations of the effects of compressed air on the human ear. Their observations were made in the caisson of the new East River bridge. Intelligent persons were selected for observation, were examined before entering the caisson, were in average health and were rested before entering the caisson. Five of the eight examined were physicians, and all were between twenty and forty-five years of age. The accidental circumstances that cases 6 and 7 were examined on a day when the pressure employed was reduced by one-half an atmosphere, explains marked differences in the results obtained in these cases, and establishes the fact that the hearing-power for both bone- and air-conduction is reduced directly in proportion to the atmospheric pressure. Cases 1 to 5 were examined under two and one-half atmospheres. The cubic space of the caisson was 36,480 cubic feet, where fifteen persons could work eight hours with one atmosphere, or four hours with two atmospheres, the greater pressure being employed with the greater depth—one pound for each two feet of depth. The compressed air in the receiving tank has a temperature of 148° F., which is reduced to 70° F. before entering the caisson by being passed through a water-cooler. Humidity in the caisson 100 per cent.

The extreme pressure on the drum-membrane whilst the cylinder was being filled with compressed air was relieved by Valsalva's method without occurrence of pain or vertigo, but not without a violent, high-pitched hissing tinnitus, which, in the case of one, was of a roaring character at the commencement. One with cold in the nose cannot continue in the caisson. Average pulse before entering caisson was 76, after coming out 120. The tinnitus subsided on entering caisson. The voice in the caisson had peculiar pitch, timbre, and intensity, and was autophonus. Each felt peculiar depression, especially muscular fatigue, lasting from eight to forty-eight hours after leaving the caisson, though the time occupied in it was but three hours.

The following conclusions are formulated from the examinations of these eight cases given in detail in the article:

For air- and bone-conduction the reaction of the tuning-forks is greatly diminished, especially so of the higher notes.

Bone-conduction is affected more than air-conduction, probably due to hyperesthesia of the labyrinth, more effective on the lower portion of cochlea.

The hearing-power for both air- and bone-conduction is reduced directly in proportion to the atmospheric pressure.

The lower tone-limit was unaffected.

There was no lateralization in Weber's test: it was negative before and after entering the caisson.

Hearing-distance for whisper and speech was markedly decreased in the caisson.

Certain vowel- and consonant-sounds are heard with difficulty, or not at all, e. g., P and G were not heard in one case; C and G in another and G and L in another.

Hearing-distance of watch decreased one to twenty.

The labyrinthine disturbances due to the compressed air persist from twenty-four to forty-eight hours.

Pressure of one-half an atmosphere is sufficient to depress drum-membrane.

Two atmospheres cause marked disturbance of drum-membrane with conges-

tion of the malleolar plexus and of the membrana flaccida.

In some cases the depression is sufficient to displace ossicular chain and cause persistent tinnitus.

Danger of rupture of drum-membrane during descent into caisson if Valsalva's experiment is neglected.

Slight cold or diseased condition of mucous membrane of upper air-passages contraindicates entering caisson, whether persons affected are or are not accustomed to entering it.

Persons with sclerosing types of chronic ear-disease must also not enter caisson.

Vertigo is apt to occur in the "lock" in those with labyrinthine disease, especially if semicircular canals are involved.

Those with weak heart and circulatory apparatus are in danger if they enter the caisson, the action of the heart being greatly accelerated.

Neurotic subjects should not enter.

Compressed air offers sufficient resistance to prevent whistling, especially the high notes.

The atmosphere, though saturated, causes extreme dryness of the fauces and all exposed mucous surfaces.

Indications for Operating in Appendicitis

Dr. Howells gives the following indications (*Internat. Jour. of Surg.*, July, 1898):

1. If the patient looks ill, and there are vomiting and tympanites with a rapid pulse.

2. If patient looks ill, and there is vomiting, even though pulse and temperature are under 110.

3. If patient looks ill and pulse is over 110.

4. If there is rapid and feeble pulse and extreme tenderness in the right iliac fossae.

5. If pain and tenderness, at first localized, tend to become general, even though other symptoms may be absent.

6. If local pain and tenderness continue more than two weeks without diminution.

R.

The X-ray, in the Diagnosis of Tuberculous Changes in Lung-tissue

J. E. Stubbart (*Phila. Med. Jour.*, Vol. I, No. 11, pp. 469) states that it has been demonstrated, at the Loomis Sanitarium for Consumptives, that the Roentgen rays and fluoroscope are accurate agents for the diagnosing of tuberculous changes in the lung-tissue in their various stages, using them not only as corroborative factors of results arrived at by auscultation and percussion, but in some instances discovering

isolated foci of infection not recognizable by ordinary methods. In addition the fluoroscope enables one to recognize more fully and accurately the degree, position and relation of areas of infiltration and consolidation, at the same time delineating plainly the limit of these areas. As yet no satisfactory photographs have been taken of the images cast upon the fluoroscope-plates. The results of the investigations at the institution are as follows:

1. Slight haziness indicates the beginning of tuberculous infiltration; and may or may not be accompanied by dulness.

2. Decided shadows indicate consolidation, the extent of which is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow, dark rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portions of the lungs, indicates old pleuritic thickenings over consolidated tissue.

5. Pleural effusions are shown in dark shadows, the upper level of which may be agitated by succussion.

6. There is no reason to doubt that the effusion of pericarditis would throw a like shadow, which would be distinguishable from the heart-shadow above by its greater blackness.

7. Shadows thrown on the first and third stages of pneumonia probably resemble those of tuberculous infiltration. The shadow of the second stage of pneumonia is identical with that of tubercular consolidation.

8. In emphysema and asthma the reflex is abnormally clear, and the movement of the diaphragm is restricted. L.

Alcoholic Anuria Treated by Salt-solution

Dr. Dumont reports a most instructive case (*Le Scalpel*, 2, I, 1898). A heavy drinker, very stout, was suddenly seized with suppression of urine. At rare intervals he passed a few drops of highly albuminous liquid. When the author saw him he had passed no water for twenty-four hours. Temperature was normal, pulse very rapid. Large amounts of diuretic drinks were given him, with no result, and also large doses of theobromine, but they failed to have any effect. The catheter brought forth only a few drops of albuminous urine. His general condition was getting very bad, pulse 140, etc. The author then, remembering the good effects of artificial serum in some cases of uremia,

decided to try it on this patient. A liter (a quart) of a sterilized solution of salt was injected at one sitting in three different places: the pectoral, abdominal, and axillary regions. Half an hour after the injection the patient passed a large amount of gas and began to urinate. On the next day he was an entirely different man and passed three liters (three quarts) of urine, which was free from albumen. R.

Recurrent Polyneuritis

At a clinic at Johns Hopkins University, H. M. Thomas (*Phila. Med. Jour.*, Vol. I, No. 20, p. 885) presented a patient having multiple neuritis in a rare form, rare from the fact that he was in the middle of the fifth distinct attack, this form of the disease being aptly termed recurrent polyneuritis. The writer makes mention in brief detail of seven cases in all, the only ones that have been reported with special reference to the recurrence of multiple neuritis. From the cases referred to, the following conclusions are drawn by the writer:

1. There are patients who show a marked tendency to the occurrence of repeated attacks of multiple neuritis.

2. We do not at present know how the poisons which may cause the neuritis differ from each other in their liability to cause recurrences, except in the case of lead, which seems particularly prone to give rise to recurrent attacks of paralysis, at times even when there has been no re-exposure to poison.

3. We are not able to state upon what the repeated attacks of multiple neuritis depend, whether they are simply the manifestation of an unusual individual predisposition of the nerves to become diseased, or whether the first attack of neuritis itself leaves the nerves more liable to the second attack. L.

Climatotherapy in Phthisis

Dr. Jas. T. Whittaker (*Ind. Med. Jour.*, June, '98) considers that the various chemical, surgical, and other means of treating phthisis have been failures; so far as cures are concerned, alimentation, cod-liver oil, alcohol, and creosote are helpful. The various immunizing agents might help in the incipency of the disease. Immunity is tolerance, minute quantities of a poison are introduced into the system, and these quantities are increased until the system is made immune to doses which would have been fatal in the beginning. Tuberculin would prove curative, no doubt, were the disease pure tuberculosis; the trouble is

that after a while other microorganisms are added to the original bacillus until the disease becomes tuberculosis plus septicemia; and this compound the immunizing agent will not affect. What is wanted, then, is a satisfactory treatment for pulmonary septicemia. There remains to be considered climate, "the remedy above all others which deservedly has the highest repute in the treatment of pulmonary sepsis."

To begin with, no treatment will cure or will create new tissue in place of the lung-tissue which has already been destroyed by disease. There is much diversity of opinion as regards the best climate; but there are certain fundamental principles to be considered for each patient. It is established that the frequency of tuberculosis diminishes with increasing altitude; here the air is thin, dry, there is more wind, more purity, more ozone, and more sunshine. To get these effects we must ascend to from 2,000 to 3,000 feet, about half a mile; the nearer the equator the higher we must go. Dry air is inimical to the growth of the tubercle bacilli; therefore, dry air is necessary. Moreover, more moisture is given off from the lungs in a dry than in a wet climate. There are cases which undoubtedly improve during ocean voyages and at the seashore, but the author considers that in these cases the catarrhal element has predominated or the blood has been thin and poor. High air is cold air, and cold air cannot retain much moisture. Arctic air, where there is perpetual snow, is, however, as dry as that of the desert.

Altitude means rarefaction. Air has weight, which makes pressure and the pressure lessens with increased altitude. Symptoms due to insufficient oxygenation arise especially during exertion when the patient enters for the first time rarefied air, not because the raw air does not contain enough oxygen (the rarest contains more than is needed for respiration), but because the blood will not absorb oxygen except under a certain pressure. Therefore, reduction in atmospheric pressure throws extra work upon the heart and lungs, which, by a process of unconscious but continuous gymnastics, strengthens these organs. Winds are an advantage; the air is thus changed and purified. Cold air favors dryness, acts as a stimulus, favors sleep and increases the appetite. In altitudes there is sunshine; animals, like plants, require the sun's rays, in which, on the other hand, the tubercle bacilli perish. Sunlight, moreover, produces cheerfulness, and pleasurable sensations are the best tonic. Then there is ozone which is de-

veloped by thunder-storms along the sides of mountains and by the respiration of plants, especially pine-trees; this ozone has a distinctly stimulating effect, which is as yet not well understood. The air becomes freer of organic matter, including bacteria, and the products of tuberculosis and sepsis are more speedily dissipated, as we ascend. Moreover, in altitude there is perfect drainage. To these benefits are added those which accrue from out-door life, from change, rest, and release from care, such as are applicable to all climates.

Carcinomatous patients do badly in mountain air, as do those with heart-disease, unless the heart can overcome the strain of the first weeks. Emphysema is not likely to be favorably affected. Asthma, scrofula, bony tuberculosis do well, as also, in the author's opinion, rectal fistulæ, lupus, and laryngeal tuberculosis.

According to Solly's table analyzing 7,795 cases, 75 per cent. showed improvement in high altitudes.

The process of cure is as follows: Catarrh is relieved by abundant expectoration or absorption and cessation of secretion. Infiltrations are reduced to a state of catarrh and then dissolved away. The contents of the cavities are healed under desiccation and subsequent cicatrization.

For moderate elevations the author commends Asheville and Aiken, S. C., and the Adirondacks; he especially commends for high altitudes Denver, Colorado Springs, Manitou Springs, and Glenwood Springs, in Colorado, and Santa Fé in New Mexico. When patients must stay at home, the physician may, in a sense, create a climate by exposing them to out-door air. They should be put upon the porch, if possible, by night as well as by day, protecting themselves against the wind and snow by waterproofs, and securing warmth by the use of hot-water bottles and bags to the feet and spine. The head should be covered; patients with fever should lie in bed. All cases, except, perhaps acute miliary tuberculosis, are benefited by the out-door treatment. G.

Turpentine in Acne Rosacea

Dr. Betz (*Mcd. Standard*) gave to a patient suffering from bronchitis and also acne turpentine as an embrocation for his chest, and when it had produced the desired effect Dr. B. thought that what had been good for the chest might benefit the face, for which many remedies had been tried unsuccessfully. The result was that the acne disappeared. The doctor, being astonished at the result, tried the same remedy in other cases of acne with excellent

results. The application caused violent smarting and redness, which, however, disappeared in a few hours. Dr. Betz suggests that the turpentine has a solvent action on the sebaceous secretion, and that it produces a beneficial hyperemia in the dermis, and lastly that it also exerts a disinfecting action which prevents the further spread of the affection. G.

An Easy Means of Emptying the Bladder

Dr. Anderson (*Louisville Med. Monthly*, June, '98) says that an excellent means of emptying the bladder when partially paralyzed from parturition or other causes, is to inject a very large amount of very warm water into the rectum. The patient then empties the bladder with perfect ease, doing away with the disagreeable necessity of using a catheter, which is a most important consideration, especially when patient and doctor live quite some distance apart. The author says that he often used to be obliged after difficult and protracted labors to use the catheter every day, and sometimes several times a day, for weeks at a time. This was very annoying to the patient and to himself. Since using the plan above described he had no trouble whatsoever in this respect, as the bladder would each time empty itself simultaneously with the bowel.

Swollen Testicles

A thick paste (*Jour. of Med. Sci.*, pp. 304, 1898) made of bismuth subnitrate and water is the best application for swollen testicles. It relieves the pain and the burning sensation, and the swelling subsides rapidly. R.

The Tonsil in Tuberculosis

It is always a matter of great interest to decide the route by which an infective disease enters the body, and especially so when it is found that the place of entry is somewhat different from what might have been expected to be the case. Nothing can be more natural than to imagine that such a disease as tuberculosis of the lungs, the infection of which is often admittedly carried by air, should enter by way of bronchial tubes, hence the great importance of investigations, the tendency of which is to show that even in such an apparently straightforward case as this, the route traversed is sometimes much more circuitous. Dr. Hugh Walsham (*The Hospital*, Vol XXIV, No. 614, 1898) shows that, out of thirty-four consecutive cases in which the tonsils were examined post mortem, they were found more or less tuberculous in twenty. With two excep-

tions there was nothing during life in any of these cases to call attention to the tonsils, but it is perhaps worthy bearing in mind that they all occurred at the city of London Hospital for Diseases of the Chest. This point is additionally interesting from the fact that the result of an examination of many examples of hypertrophied tonsils and adenoid vegetations removed during life, apparently not from "chest" cases, was entirely negative. Now comes the question, was the implication of the tonsils which was demonstrated in the phthisical patients primary or secondary; was it the original place of entry, or were the tonsils infected by the tuberculous expectoration passing over them? To this Dr. Walsham answers that in some it was one, and in some the other. In the primary cases the route taken by the tuberculous virus would be as follows: The bacilli would first gain entrance into the human organism by way of the tonsil, where they would develop for a time. Then they would spread by way of the lymphatics to the cervical and mediastinal glands, and so to the thoracic duct, the right side of the heart and thus to the lungs. A striking case is given in illustration of the mode of access. In this case the tuberculous ulcer at the back of the pharynx was very chronic in its course; in fact, there were appearances of healing at some parts. Microscopically also the sections showed the fibroid character of the tubercle. The infection starting thence from the pharynx, gradually spread to the cervical glands, which were found post mortem to be tuberculous. From here the bacilli reached the thoracic duct and the right side of the heart, the pulmonary artery and the lungs; so that both lungs were found stuffed from the apex to the base with gray miliary tubercle. The old tuberculous ulceration in the apex to the base with gray miliary tubercle in the cervical glands and lungs lead one irresistibly to the conclusion that the primary source of infection was in the pharynx.

"There could be no question of the pharynx being infected by the passage over it of sputa laden with bacilli, for, as usually happens in these cases of miliary tuberculosis of the lungs, there was no sputum."

S.

The Abuse of the Nasal Douche

Dr. Lichtwitz says that the nasal douche is still much abused (*Med. Press and Circ.*, 9, II, 1898). In the majority of cases hypersecretion is due to other causes than inflammation of the nasal mucous membrane: to sinusitis, deviation of the septum, new

growths, etc., and when the nasal douche is prescribed in such cases it is not only useless, but may seriously injure the epithelium of the mucous membrane. The sense of smell was lost in this way in numerous cases, and as experiment has shown, no active antiseptic solution can have any other but injurious effect to the sense of smell. The nasal douche is also frequently the cause of distressing headaches, probably caused by the passing of fluid into the sinuses. Another grave danger is that the liquid may reach the middle ear through the Eustachian tube and cause suppurative otitis media. R.

Gastric Ulcer in an Infant 2 Months Old

Dr. Cade reports the following rare case (*Rev. Mens. des Maladies de l'Enfance*, II, 1898). The child, two months old, was suffering for four weeks with vomiting and hematemesis; finally general peritonitis set in, and the child died; autopsy showed that the peritonitis was due to a perforated round ulcer of the stomach. Basing himself upon this and the other published cases, the author says that ulcer rotundum in infancy has the same anatomical characters as in the adult, and thus in both the hemorrhages and the perforation-peritonitis are the most dangerous complications. R.

The Nervous Sequelæ of Epidemic Influenza

J. Dreschfeld, Manchester (*Med. Chron.*, Vol. VIII, No. 6, pp. 401), refers to the various nervous affections complicating or following upon epidemic influenza, chief of which is neurasthenia, the various types being cerebrospinal, spinal, and sympathetic. A noteworthy feature of the former is the great depression, amounting to melancholia, with suicidal tendencies, the writer recording three cases occurring in young females in which life was taken. In the spinal form, it was accompanied by hysteria, hystero-epilepsy, localized spasms, and contractures, placid and spastic paralysis. The sympathetic type offers a group of symptoms relating to the heart, the digestive system, and sexual organs. In the first group are the so-called cardiac neuroses, such as brachycardia, attacks of the nature of angina pectoris, and in some cases an affection of the myocardium, accounting for sudden death at times. Peripheral neuritis is next referred to, the symptoms coming on rapidly, with marked sensory disturbances, the patient becoming rapidly helpless; the muscle besides being paralyzed showed marked atrophy and some degenerative reaction. In a few

cases all four extremities were affected, recovery taking place after some months. Regarding affections of the spinal cord and its membranes, there are met with post-grippal meningitis, acute disseminated myelitis, transverse myelitis, spastic paraplegia, and acute polio-encephalitis. Of these, spinal meningitis is often associated with cerebral meningitis. The writer refers to the numerous brain-affections noticed in connection with influenza, symptoms of irritation and of paralysis of cerebral centers often occurring, purulent meningitis, hemorrhagic encephalitis, cerebral abscess, and thrombosis of a cerebral sinus or of cerebral arteries being noted as complicating or following upon influenza. The relation which the various nervous affections bear to the influenza bacillus, however, is most probably not the same in the various affections, some, like hemorrhagic encephalitis, thrombosis, hemorrhagic meningitis, being probably due to the bacillus; while others, like peripheral neuritis and perhaps many of the functional disturbances, are due to the toxic effects of the bacillus—an influenza toxin. Again, such as cerebral abscess and suppurative meningitis are probably due to a mixed infection. Finally, many cases of mental disease have been noticed to occur a short period after an attack of influenza, four different groups being described: Melancholia, the largest group, acute mania, acute dementia, and general paralysis. Many of these cases recover after a short period. Those cases where there is a family predisposition present a less favorable prognosis.

L.

A Case of Presumable Hermaphroditism

E. N. Liell (*Atlanta Med. and Surg. Jour.*, Vol. XV, No. 3, p. 174) reports a case of presumable hermaphroditism, the individual being a negro at work in a convict camp. A description of the conditions presenting is as follows: Age 22 years; has always dressed in male attire, but has never been accustomed to hard work; has been a cook and waiter. He presents a well-developed penis in natural position, though rather small, being about the size of two joints of a man's finger. There is an opening, as of urethra, in the glans penis, but there is apparent no canal, the urine being voided through an opening at the base of the penis; when voided, the urine takes a direction from the body just as if from the normal male urethra. About an inch below the base of the penis is a vaginal opening, which is quite small and short, barely admitting the tip of one's little finger. There is no scro-

tum present. The labia majora are, however, prominent. Just to the right of the base of what may be called the penis, at the upper portion of the right labium majus, can be felt, freely movable, a small glandular body about the size of a pecan-nut, which, from its position in the immediate region of the inguinal opening, may be regarded as either an undeveloped testicle or an ovary in an abnormal situation. The individual claims to have felt sexual passion, with erection of the penis at such times, although intercourse has never been indulged in. Slight signs of menstruation, it has also been claimed, have occurred at irregular intervals. As shown by the history above recorded, and made more evident by the illustration, the characteristics of both the male and the female sex are evidently united in this individual, those of the female predominating. No examination was made of the mammary glands.

L.

Epidemic of Carbuncle

Dr. Lardier (*Bul. méd. de Vosges*, No. 47, April, 1898) gives an account of the spread of an epidemic of carbuncle in the town of Bru. A woman of Bru suddenly died before he could respond to a call to go to her. The same evening a man came to him with two large wounds of the back of the left hand and forearm. The central portion of each was black and gangrenous, and this was surrounded by pustules with transparent liquid. The surrounding tissues were bluish and the whole arm was swollen with a painless edema. The axillary glands were enlarged. The diagnosis was malignant pustule, or carbuncle-infection. This man had consulted the doctor urgently because of the death of the woman that morning with wounds like his. Eight days previously a cow had died suddenly. The cow was skinned, cut up, and sold to the townspeople. This patient was one of two men who did the skinning. Both received slight wounds whilst doing it to which they paid no attention. The woman above referred to took the cow's head, and in separating the parts of it also was wounded and infected. The treatment for the two men was dressing of the wounds with a 1 to 1000 bichloride-solution in alcohol (Van Swieten's liquor) and administration of it internally. Recovery was slow after profound anemia.

The prefect of Bru was notified of the facts, and requested to investigate. The investigation did not find the seriousness of the conditions. But a few days later one of the two men named above had a

calf die suddenly. This he skinned and cut up, but in doing so his workman was wounded. He neglected the cut, and in a few days died of the pustule. This, at last, had the effect of verifying the serious character of the infection. Another physician was called in to investigate, who substantiated Dr. Lardier's original diagnosis. But further evidence followed. The skin of the first cow that had died was put away in a carriage-house belonging to one Janel, of Bru. A few days later one of his cows died suddenly. The Mayor of Bru had an investigation made to ascertain if this cow had malignant pustule. The man who made the autopsy cut himself: the cut was treated at once by the physician in charge, and got well rapidly, but, in four or five days a furuncle appeared on his neck, which swelled to an enormous size and soon ended in death. The Mayor now thoroughly aroused called a council of health, to which Dr. Lardier was invited, and measures were taken which ended the fatalities, but not before further evidences of the spread of the disease were traced. Dr. Lardier had learned that eight or ten cats had died suddenly and peculiarly after eating rejected portions of the first infected cow. The owners of the cats disposed of them in the simplest manner possible by throwing them in the stream where they were found and fished out by the orders of Dr. Lardier, who, in addition to being a physician, was also the Mayor of Ramberviller. This town being further down the stream and making use of its waters, was forbidden to use these waters further, until a perfect search had recovered all the cats and other rejected portions of the cows that had also been thrown into the stream. The infected houses were specially disinfected. No other cases appeared, but the facts elicited by these met with, show how greatly neglected are ordinary sanitary measures.

The above cases show that malignant pustule is not necessarily fatal, though popularly supposed to be so. H.

Treatment of Acute Phosphorus- and Morphine-poisoning

Dr. Schreiber (*Munch. med. Woch.*, June 21, 1898, p. 789) experimented with animals poisoned with phosphorus and morphine, and found sodium permanganate an effective antidote. He prefers the sodium to the potassium permanganate, because the latter is more poisonous. The sodium salt may be given in very large doses without any danger. The reason that the permanganates are good antidotes for morphine and phosphorus is well understood:

the poisons become oxidized by the permanganate (which yields its oxygen very readily to almost any organic substance) into innocuous products. The author recommends washing the stomach with a 2 to 1000 solution of sodium permanganate, and then pouring in one-half liter (1 pint) of the same solution and leaving it there. R.

Excretion of CO₂ by the Lungs in Diabetes

Ebstein (*Deut. Med. Woch.*, Feb. 17, 1898; ref. *Brit. Med. Jour.*) returns to the question as to whether there is a diminished formation and therefore excretion of carbonic acid in diabetes. He relates a case of diabetes in a man aged 47, in which Lehmann investigated the gases of respiration. The patient was put on a given diet for several days previously. This diet was the usual one as regards albuminous matters, and was rich in fats but poor in carbohydrates. During two days the amount of carbon dioxide excreted from the lungs was 705.3 and 670.2 gme. respectively. A table is appended showing the details of the examination of the urine. The results of the investigation confirm the view that the diabetic gives out less carbon dioxide under similar dietetic conditions than the healthy individual. G.

The Chemistry of the Stomach

Dr. J. G. Blount (*N. Carolina Med. Jour.*, June 30, '98) writes of departures from normal digestion of food—hyperacidity being first considered. Hydrochloric acid acts normally as an antizymotic or antiseptic; it has the power to convert pro-enzymes of pepsin and zymogen into active ferments in a short time; it aids in the regulation of peristalsis; with the aid of pepsin it transforms albuminous bodies into peptones; it converts cane-sugar into invert-sugar (dextrose and levulose); it aids in bringing into solution the soluble calcium and magnesium salts introduced into the blood. It is detected by means of test trials. The Ewald-Boas test meal includes one roll or a piece of wheat bread and $\frac{3}{4}$ viii of water or tea without milk or sugar; one hour after this meal is taken the gastric juice should be procured. Another method is to give at 8 A. M. a small piece of scraped broiled meat, a soft-boiled egg, boiled rice, one glass of milk and a piece of bread; then at 12 M. the Ewald-Boas test meal is given. At 1 P. M., five hours after the first meal, the stomach-contents are drawn off by means of the lavage-tube. The advantage of this double test meal is that conditions of gastric mobility and secretion can be recognized before the contents are

analyzed. Should the entire breakfast meal have disappeared the digestion would be normal. If the proteid beef and egg have disappeared and the carbohydrate rice and bread be present, there would probably be hyperacidity; while an absence of all the carbohydrates and the presence of some of the beef and egg would point to hyperchloridia or subacidity. The presence of the entire meal with milk uncurdled would mean impaired mobility with absence of acids and gastric ferments. The gastric juice is analyzed by the following methods: (1) Gunzberg's reagent, modified by Boas, consists of 2 gme. of phloroglucin and 1 gme. vanillin, dissolved in 100 gme. of 80 per cent. alcohol; a few drops of this solution are added to a like amount of filtered gastric contents. This is placed over a water-bath and kept just below the boiling-point until slowly evaporated. When the mixture is dried a fine rose-tint will develop around the edges if hydrochloric acid is present in the proportion of 0.5 per 1000; excessive heat is destructive to the test; (2) A solution of 5 gme. of resublimed resorcin, 3 gme. of common sugar in 100 cc. of 94-per-cent. alcohol; 8 or 10 drops of filtered gastric juice and half the number of drops of the solution are carefully evaporated on a porcelain plate over a water-bath, avoiding excessive heat. Free hydrochloric acid in excess will be indicated by a fine vermilion-red line forming down the edges of the solution as evaporation proceeds, while the color at the periphery gradually fades, disappearing entirely after a short time, leaving a reddish-brown stain. Hypochloridia or subacidity, the presence of lactic, butyric, and acetic acids, and impaired gastric mobility are also considered. G.

Obliterative Pericarditis a Cause of Hepatic Enlargement and Ascites

R. C. Cabot, in reporting a case of the foregoing, the patient's age being 18 years (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 20, p. 463), states there was nothing significant in his family history; that he had measles at seven, and has never been well since. Several years later an enlargement of the liver was made out, and four years ago swelling of the abdomen was noticed. He was very backward in development and considerably emaciated. The abdomen was tapped three times, about one gallon being obtained each time. There was considerable effusion in the left chest, from which two quarts of liquid were obtained at one time by tapping. The following conclusions are offered by the writer: 1. Some cases of hepatic enlarge-

ment with ascites and other evidence of portal stasis appear to be due to chronic obliterative pericarditis. 2. Appreciation of this possibility may lead to the correct diagnosis through careful and frequent examinations of the heart, and close scouting of the previous history. 3. The disease appears to be relatively frequent in persons under thirty years of age, and usually runs a course of from six to twelve years, that is, a longer course than most cases of primary alcoholic cirrhosis. The fact is of importance in prognosis. 4. Treatment is in any case simply palliative.

The Open-air Treatment of Phthisis as Practised in German Sanitaria

Impure or "rebreathed" air is the principal predisposing cause of phthisis; the leading principle of the treatment, described by Dr. C. T. Williams (*Brit. Med. Jour.*, May 21, 1898), is that the consumptive should pass the greater part of his time in the open air, protected from weather, and as a rule in the prone position, and that at night he should sleep with windows open. This treatment is carried on either in covered balconies or terraces with one side open or in pavilions, some of which are arranged to rotate, the invalid being thus enabled to be always protected from wind and exposed to sunshine. The covered terraces are of considerable depth and height, the drifting rain and snow are kept out by curtains, and the too intense sun-heat by blinds. The patient lies out from seven to eleven hours a day, only moving for meals and exercise, and going indoors at night. Thus protected all kinds of weather are well borne, provided only the patients are well covered up in furs and wraps.

To resist cold the prone position is far better than sitting, probably because of the equalizing effect it has on the circulation of the body and the less strain it exerts on the heart. The author has found patients lying in comfort in the open air at a temperature of 4° F.; on feeling their hands and feet he found them perfectly warm; thus the patient is hardened against fresh cold, his appetite is increased, his sleep is promoted, his night-sweats reduced, and his pyrexia is lowered. There are two objections to the prone position; first, it is not well adapted for clearing cavities by expectoration, some of the sputum being liable to return to another bronchus, thus making a new focus of infection; second, in incipient disease it is impossible to maintain the muscles and the functions in proper order without exercise. Therefore some physicians use this *Liegenhalle* sys-

tem alone, while others add to it hill-climbing and other forms of pulmonary gymnastics. The exercises are regulated, the patient is enjoined to ascend slowly, not to talk while climbing, to breathe through the nose, and to stop short of actual fatigue. During steady walking, five or six deep breaths are to be taken every 100 or 150 paces, breathing through the nose, or when lying in the open air taking from ten to twelve deep breaths every five or ten minutes.

The patient is stuffed with a rich and varied diet, and hydropathy is used, especially douches to the thorax to stimulate respiration. The floors of these sanatoria are covered with linoleum, the walls are painted with oil-colors or are inlaid with wooden panels or papered with washable material; there is no sweeping done, but swabbing instead with damp cloths. The sputum is spat into vessels and afterward destroyed; it is frequently examined, and when no bacilli can be found, 1 cc. of the sputum is injected under the skin of a guinea-pig; and if in from three to six weeks the animal has not contracted tuberculosis, the patient is considered fit to return home.

G.

Cerebral Hemiplegia Following Diphtheria

Postdiphtheritic paralysis of *cerebral* origin is extremely rare. There are altogether thirty-five cases reported in literature. Dr. Brannan (*Med. Record*, July 30, 1898) reports a case. The patient was a girl of 19, fairly strong, but rather anemic and of a nervous, excitable temperament. The diphtheria was of a severe type, affecting the nasopharynx, with profuse nasal discharge. The urine contained albumin. The treatment consisted of frequent irrigation of the nose and throat, and free stimulation with whisky and strychnine. No antitoxin was used as patient was ill several days before admission to the hospital. Several days after leaving the hospital her right arm became completely paralyzed, but became normal again in about two hours. Two days later she was seized suddenly with paralysis of the right arm and right side of the face, with loss of speech. In a few hours the paralysis was complete on the right side. It is now two years since the accident happened to the patient, and she is now able to walk with a slight limp, but has little use of her hand. Nor is there much improvement in her speech, though mentally she is as bright as ever. On two occasions she had had severe convulsions—once after

some unusual fatigue, the second time on rising in the morning.

The prognosis in postdiphtheritic paralysis of cerebral origin is grave. In the total thirty-six cases reported, there was complete recovery in four, death in seven; in all the others there was permanent paralysis of greater or less extent.

The cause of the paralysis is not always easy to determine. In the thirty-eight reported cases, the lesion was thought to be hemorrhage in seven cases and embolism in fourteen; in the other fourteen the diagnosis was uncertain. Six cases have come to autopsy; in one of these a hemorrhage was found in the internal portion of the cuticular nucleus; in the other five there was embolism of the Sylvian artery. R.

The Motor Neuron in Practical Diagnosis

H. T. Patrick, in an instructive paper (*Medicine*, Vol. IV, No. 5, p. 360), alludes to a few relations of the neurons of the motor tract. Starting on the cells of the cerebral cortex the motor impulse terminates in the muscles. The motor tract is made up of two distinct sets of neurons or nerve-units—an upper and a lower, and like every other histological unit is developed from a simple cell. These two units or neurons, coupled together by means of their interlacing processes, constitute one strand in the motor tract, which is composed entirely of such pairs and along which the motor impulse travels as an electric current will pass from one person to another through their clasped hands. Destruction of the path at any point causes paralysis, either by preventing the birth of the motor impulse—lesion of the motor cortical cells—or by preventing the impulse from reaching the muscles—lesion at any place between these cells and the muscles, be it of the upper or lower neurons. A lesion of one neuron cannot cause death of another, and so, while a lesion of the upper neuron causes a degeneration of all of that neuron below the lesion, the lower neuron, with all its functions, remains intact. In the case of the lower neuron, however, there is an added element, in that it possesses a trophic appendix, which is the muscle. That is, if the body of the lower neuron be destroyed or if a portion of the nerve-fiber process be cut off, not only is there degeneration of the whole or part of the nerve-fiber process, but the muscle-fiber to which the nerve-fiber goes also degenerates and wastes away.

The effect of this will be: First, paralysis, because the motor impulse cannot be transmitted from the upper neuron

to the muscle. Second, with degeneration of the lower neuron or its peripheral part go degeneration and wasting of the muscle-fiber, i. e., atrophy. Third, if a degenerating and wasting muscle be examined by the electric current, certain abnormalities of contraction are seen, called collectively reaction of degeneration. Fourth, a degenerating and wasting muscle cannot respond by a jerk to a tap on its tendon; that is, there is loss of the tendon or deep reflexes—the knee-jerk for instance. Fifth, a degenerated and wasted muscle can have no tone; it is abnormally relaxed, i. e., the paralysis is flaccid. A lesion of the upper motor neurons, i. e., above the lumbar enlargement of the cord, causes paralysis, spasticity, no atrophy, exaggeration of the deep reflexes, and no change in the electric reaction. L.

The Dangers of Typhoidal Urine

Dr. Petruschky (*Centralbl. f. Bacter.*, Vol. XXIII, No. 14), in examining the urine and feces of fifty typhoid patients, found typhoid bacilli in the urine three times, and in the feces but once, showing that the urine plays a very important part in carrying infection.

As an illustration the writer cites the following event: A typhoid patient, during the absence of the nurse, urinated in a champagne bottle which stood at his bedside. The nurse, believing it to be champagne, poured some of the fluid in a glass and noticing its cloudiness, tasted and swallowed it before having detected her mistake. Twelve days later she developed typhoid fever. S.

The "Cent-sign" in Diagnosis of Pleuritic Effusions

Dr. A. Pitres (*Sem. méd.*), employing a method analogous to the one used by Trousseau for pneumothorax, makes frequent use of the coin-clink in diagnosing a pleuritic effusion. He was led to do this by noticing the clear metallic clink below the hydrothorax at the level of the liquid.

The patient is examined sitting or standing. The physician applies his ear or the stethoscope at one side of the chest, whilst an assistant, holding a coin against the opposite side of the chest, taps it lightly and quickly. Where the ear alone is used, the opposite ear is plugged. When the lung is healthy, the sound perceived is dull and flat. If hepatization or tubercles exist, the sounds are less distinct than in the normal lung. When there is air in the pleural cavity, the brass sound of Trousseau is observed. But, if there is liquid in the pleura, the sound becomes clear, acute, and silvery,

seemingly immediately under the auscultating ear.

But Pitres acknowledges it is not pathognomonic; it may occur without liquid and be absent when the latter is there, because this sound is produced only when the medium is homogeneous. Where there is unquestionably liquid in the pleura, it enables exact determination of the upper limit of it. H.

Calculus Disease, and the Treatment Best Adapted for Its Prevention

Dr. H. F. Hazlett (*Therap. Gazette*, July 15, p. 451) summarizes as follows:

1. Calculi are of local or constitutional origin; and those depending upon a constitutional diathesis are greatly in the majority.

2. Since uric acid forms the basis of the vast majority of calculi of constitutional origin, the question of preventing the formation of gravel resolves itself largely into one of regulating the production of uric acid and favoring its elimination from the system.

3. The true rationale of the unduly large formation of the urinary salts appears to be due to an inefficiency in the excreting power of the skin and liver; and the kidneys have more work than is natural thrown upon them. Uric acid is largely produced and is eliminated not only in solution but in crystalline form.

4. Alkalies and diuretics will not improve the constitutional state involved in stone-formation to any great extent, and there is reason to believe that large quantities habitually taken exercise an undesirable influence, especially upon the kidneys.

5. The long-continued daily use of certain saline aperient *natural* mineral waters of the sulphate of soda group is beneficial in calculous disorders, because they produce activity in all the digestive functions and stimulate the excretory action of the abdominal organs to the end that certain waste matters which were previously thrown out as uric acid by the kidneys are eliminated in some other form.

6. Sulphate of soda is one of the most excellent therapeutic agents we possess, and deserves to be more popular than it is; but it is not as potent in the form of the commercial salt as in the form of natural mineral water, nor can it be given continuously without increase of dose, except in the form of the waters above mentioned.

The author is a believer in "Nature's wonderful laboratory." He thinks that the best chemist's skill cannot imitate the natural waters successfully. R.

SURGERY

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Absorbable or Non-absorbable Suture-material

Dr. Seth C. Gordon concludes an article on the above subject with the following summary (*Jour. of Med. and Science*, p. 303, July, 1898):

1. All suture-material unabsorbed must necessarily have more or less exudate about it.

2. Such exudate is of lower vitality than normal repair where tissues are just approximated and not strangulated.

3. A few days only are necessary to insure repair, if there be no infection, and therefore in cases where no great amount of strain exists absorbable sutures only are needed.

4. Where continual strain on the parts is inevitable, non-absorbable sutures should be used for at least two weeks, but should be so placed as to be removed.

5. For such sutures the silkworm-gut seems to be the best, as it can be made sterile and kept so.

6. For all other purposes catgut is sufficient.

7. Inflammation is always destructive to complete repair.

8. Inflammation is always due to infection.

9. Sterile catgut or kangaroo-tendon should therefore fulfil all indications for suture- or ligature-material, with exceptions named.

R.

Hysteria from a Surgical Standpoint

J. E. Moore (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 19, p. 452) remarks upon the frequency with which hysteria is met in surgical cases and that one should always be on the look out for it, else grave errors in diagnosis and prognosis may result. He urges great care in operating, or even advises operation upon neurotic females in whom the subjective symptoms are often out of all proportion to the objective. Reference is also made to the peculiarities of some cases of phantom tumors, and to one of hysterical aphonia following an operation upon an adult male. In the writer's opinion the surgeon most frequently meets hysteria in arthral and spinal ailments, and care should be taken to avoid mistakes in diagnosis and prognosis in such cases as they bear a close resemblance to joints the seat of disease. These hysterical joint-affections of-

ten follow an injury; there will be slight atrophy but no local rise of temperature or marked swelling, but slight puffiness. The deformity is often exaggerated, and differs considerably from that which is present in disease. Hysterical spine is easily diagnosed as it bears no resemblance whatever to deformity as a result of disease. He observes that hysterical patients may develop a tubercular joint.

L.

Treatment of Tubercular Peritonitis by Laparotomy

Prof. Duplaz (*Le Bull. méd.*, No. 54, July 6, 1898, p. 653), in a clinical lecture says that the prognosis of all tubercular affections is grave, but there is a particular gravity in a tubercular infection of the peritoneum, especially when ulcerative. However, cure is possible either spontaneously or by the operation to be described. Here, the medical management of tuberculosis must give place to the surgical, since laparotomy has become the successful means of cure.

Leaving aside miliary or granular peritonitis peculiar to children where surgical treatment is not to be thought of, there are three chief varieties:

1. Ascitic—serous effusion into peritoneum, sometimes sero-purulent, or even sanguinolent. Here the peritoneum is injected, deprived of its gloss, and sometimes has fibrinous deposits.

2. Ulcerous, or fibro-caseous. This has an abundant production of false membranes, forming considerable thickenings, even tumefactions of the peritoneum. Numerous adhesions exist both between the opposing parts of the peritoneum and between these and the viscera. Here and there are accumulations of sero-purulent liquid, and occasionally softened cheesy masses. In this kind perforations are frequent and stercoraceous abscesses occur.

3. Fibrinous, or dry, peritonitis. No liquids, but adhesive inflammatory exudates whose fibrinous transformation tends to cause regression of the tubercles around which they form.

In addition to these general forms there are circumscribed forms which also admit of successful handling in this way.

According to Roersch it is in the ascitic form that laparotomy gives the best results. In *Rev. de Chirurg.*, 1893, 358 cases are analyzed the ascitic giving 75 per cent. of cures; the fibrinous, 65; the ulcerous, 60. Many cases published since these of Roersch, confirm his report, even making the results better. Sometimes the

cure is only temporary, but autopsies on many cases of this kind who have died of accidental causes, show the cure to have been effectual. The forms which most frequently get well of their own accord are those which belong to the class most favorable for operation, viz., those in the ascitic and dry forms. The unexpected successes accompanying the operation in the gravest cases, where operation would even seem to be contraindicated, leads the author to say that it may be adopted in all three classes of cases, especially if done early.

Three positive contraindications are (1) advanced pulmonary tuberculosis; (2) grave visceral tuberculosis, of intestines, liver, or kidneys; (3) profound general enfeeblement.

Laparotomy is done in the usual way along the median line, taking special care to avoid wounding the intestines which may be adherent to the peritoneum. Evacuate ascitic fluid, wash out with antiseptic solution or sterilized water at 38° or 40° C. (100.4° to 104° F.). In the fibrinous form adhesions are to be gently broken up on either side. In the ulcero-caseous form adhesions are to be broken up still more gingerly only for the purpose of getting at and evacuating and cleansing all pus-pockets. Before closing up dust light sprinkle of boric acid or iodoform over the peritoneum. Drainage is not to be used except in cases where pus-pockets have been cleaned out.

How simple opening of the abdomen in these cases cures, the author does not pretend to say. He mentions the guesses advanced—removal of liquid removes micro-organisms and removes pressure from the blood-vessels; it admits air and light; it sets up reactional irritation; reflex excitation of the nervous system produces nutritive changes and consequent regression of the tuberculous products; more or less intense phagocytic reaction is set up, scattering and disintegrating the tubercles as fast as fibrous tissue can surround them to displace the inflammatory. H.

Bottini's Operation for Enlarged Prostate

Dr. Henry H. Morton (*Med. Rec.*, N. Y., 1898, LIV, 397-400) reports five cases of hypertrophied prostate greatly benefited by Bottini's operation. The operation itself consists in burning three incisions through the hypertrophied gland, one posterior, one lateral, and one anterior, by means of a specially adapted galvano-cautery. The advantages claimed for this operation over the other methods for relief of enlarged prostates, are: no general anesthetic is re-

quired, as a rule hemorrhage is almost entirely wanting, and the burning of the tissue chars and "seals up all the avenues of infection." Mortality-rate for above reason is much smaller and therefore the operation may be indicated long before the symptoms would demand "interference at any price." In cases of enlarged prostate when the parenchyma of the gland is the part involved Bottini's method does not give its best results and castration might in these cases be preferable. "The instrument is shaped like a lithotrite and is provided with a thin platino-iridium blade, which is concealed when the instrument is closed, but is moved backward in a slot by working a wheel at the end of the instrument." The blade is kept at a dull cherry-red by means of an electric current. The five cases treated by Dr. Morton all showed marked improvement. "The result of the operation was in every case to reduce the frequency of urination and to remove the obstruction offered by the prostate, so that the patients could entirely and completely evacuate their bladders." T.

The Risks to the Ureters When Performing Hysterectomy.

F. A. Purcell rightly states (*Med. Press and Circ.*, Vol. CXVI, No. 22, p. 563) that to demonstrate the relations of the uterine artery and the ureter to a uterus in a normal condition in the pelvis differs when the neck and body are distorted with disease. The uterine artery is a most important vessel surgically, it making a sharp turn across the ureter in a tortuous manner, below the level of the os internum, to the neck of the uterus. The ureter lies below the uterine artery and its two veins and above a large vaginal and uterine vein. At the brim of the pelvis each ureter lies upon the common iliac artery, crossing it about one and one-quarter inch from the middle of the sacral promontory; just below this it crosses the common iliac vein as it drops into the pelvis beside the internal iliac artery and usually behind it. The whole pelvic portion of the ureter is accessible to palpation in two ways—either by the vagina, or by the rectum, the bladder and rectum both being empty. In abdominal operations, the ureter may be found by separating the anterior from the posterior layer of peritoneum of the broad ligament, and carrying the thumb and forefinger deep down to the pelvic floor, gathering up the cellular tissue and letting it slip out between the fingers. Ligation of one of the ureters in performing vaginal hysterectomy is an accident which is peculiarly liable, and

comes from passing the first ligatures on the uterine artery too far out from the cervix toward the pelvic wall. When the cervix is unusually enlarged by cancerous infiltration, diminishing the distance to the pelvic wall and bringing the cervix and the ureters into an abnormally close relationship, the most skilled operator may make this mistake. The writer refers to the practice of Kelly in sounding the ureters preliminary to operation, by placing a flexible bougie on each one, where it remains until the operation is over. Further observations on wounds of the ureter and methods for restoring are made by the writer. Of the latter, are those designed to restore the continuity of the ureter, and second, those for anastomosing the cut end of the ureter with the external surface, with the bladder, or with the intestine. If in doubt as to which ureter is occluded, the cystoscope should be employed, as ureteral catheterization has, in expert hands, been found of great use in some cases of doubtful diagnosis. Several different routes have been taken for partial ureterectomy affecting the lower part of the duct, the parasacral, or a combination of the inguinal and vaginal methods, as recommended by Kelly. L.

Ophthalmological Clinics

Dr. L. Webster Fox (in *International Clinics*, Seventh Series) gives a series of clinical notes which are briefly as follows:

1. Epiphora.—Cases of lachrymal obstruction are the most troublesome to the surgeon and most discomfiting to the patient. Pus in the lachrymal sac causes conjunctivitis as well as rhinitis and produces offensive odors. The seat of trouble may be anywhere from the punctum to the opening of the nose. When due to excessive lachrymation, it may be limited to the contracture of the punctum, which may then be opened by a Weber's knife. The author has found congenital absence of the punctum in one eye. In chronic cases with pus-discharge, the most obstinate and intractable ones may be found refusing to be benefited by the best ophthalmic surgeons. The simpler cases are benefited by a mild astringent lotion, a drachm each of boric acid and sodium chloride to 12 oz. of camphor-water and distilled water. In the chronic cases, he inclines to favor the use of large probes after slitting up the canaliculus and entering the canal, following these by use of a silver style. A slitting blade must here be used. The canaliculus-slit must be kept open by a probe for 2 or 3 days. A simple method of determining whether the slitting knife has opened the

canal well, is in having the patient blow with mouth shut and nose held between the fingers, when bubbles will well up through the slit-opening. Absorbent cotton saturated with boric-acid lotion containing 2 dr. of vini opii to 4 oz. may then be applied.

2. Glass Ball in Orbit for Support of Artificial Eye.—This case is one of enucleation done four years ago. The tissues of the orbit are deadened with Schleich's solution of cocaine and morphine. A horizontal incision is then made nearly as long as the diameter of the glass ball to be inserted, with curved scissors the tissues beneath the upper lip of the conjunctive are dissected away enough to admit the ball, which is introduced after hemorrhage has stopped and the conjunctival edges are approximated by means of 5 or 6 stitches. This gives a good stump for adjustment of an artificial eye.

3. Grattage for Radical Cure of Granular Lids.—The author grasps the lid along its margin by forceps and rolls it up to evert the retrotarsal fold. This he scarifies with a 3-bladed scalpel in opposite directions. He then scrubs the granular tissue with a brush steeped in corrosive-sublimate solution 1 to 500. He does peritomy, if extensive pannus of the cornea exists. Sometimes he follows this by scraping the excised or scarified granular tissues with a scoop and then cuts through the cartilage from the inner to the outer canthus to lessen tension. The patient is put to bed and a lotion is applied on pads saturated for 2 or 3 days. The French method consists in turning out the lids again after 24 hours, and again applying the sublimate solution 1-500. But the author finds it painful and unnecessary. H.

Inguinal Hernia

Dr. J. P. Munroe (*N. Carolina Med. Jour.*, June 5, 1898) states that in the U. S. Census reports of 1880 one death in every 600 was due to hernia—which disease afflicts from $\frac{1}{4}$ to $\frac{1}{8}$ of the human race. Of 334,321 recruits examined for the U. S. Army 16,901 were rejected for hernia, this being $\frac{1}{4}$ of total rejections for all causes. Of this number 827 were inguinal hernias, and right inguinal hernias exceeded in number all other kinds of hernia combined. The first point in operation is to establish a new inguinal canal. In Bassini's operation this is done by making a new posterior wall for the canal by bringing the edges of the rectus, the internal oblique, and the transversalis down to Poupart's ligament, and attaching them there by strong ligatures; the anterior wall is

formed by stitching the cut edge of the external oblique to Poupart's ligament. Halstead's modification consists in including the external oblique in the stitches that form the posterior wall, and the new canal with the cord will then lie immediately under the skin and superficial fascia. The second point is to restore the obliquity of the canal. Stitches are introduced from below upward until the internal ring is pushed, as it were, to the uppermost limit of the incision. Either the interrupted or the continuous buried suture may be used.

The doctor describes a case in which on opening the inguinal canal there were found in addition to a small hernial sac the cecum and appendix lying on the cord and closely adherent to it. The appendix extended down beside the cord, and careful dissection was necessary to separate the two. After removing the appendix and closing the opening in it, the adhesions of the cecum were broken up, it was pushed back into the abdominal cavity, and the usual operation for inguinal hernia was proceeded with. Recovery was rapid and satisfactory. G.

Operative Treatment of Hemorrhoids

Dr. Parker Syms gave a brief treatment of method before the Society of Alumni of Bellevue Hospital (*N. Y. Med. Jour.*, February 12, 1898). There are three well-known methods: Allingham's, ablation and ligation; Whitehead's, resection of the entire hemorrhoidal area; ablation of hemorrhoidal mass by clamp and cautery.

Objects to be attained by operative treatment are: complete cure; minimum risk, delay, suffering, and deformity.

Whitehead's operation is formidable, bloody, primary union may fail, and scar-strictures result.

Allingham's operation is free from most of the risks of Whitehead's; it excises each tumor, of which it ligates the basic vessels. Less radical than the clamp and cautery method, it is yet attended by greater after-pain.

The clamp and cautery method may be completed in five minutes with slight loss of blood; it is radical and the result is excellent. It is done under anesthesia. The anus is first thoroughly stretched by the thumbs, the lower bowel having been emptied by a purge two days before and a saline a day before, and local cleansing having been done. Thus stretched, search is made for abnormalities, fissures, ulcerations, fistulas, etc. The mass of hemorrhoids is grasped in blunt fenestrated forceps in the direction of the long axis of the rectum, trimmed with scissors, and the

stump cauterized with the Paquelin cautery at a dull red heat. When the clamp is released any bleeding points left must be ligatured.

Move bowels by saline on second day and keep them moved every day. Insert suppository with 5 grn. of iodoform twice daily and bathe parts externally. H.

Radical Operation for Hernia

Dr. S. Lebensohn (*Deutsch. Ztschr. fur. Chir.*, Leipzig, 1898, XLVIII, 538-590) submits a lengthy and detailed article on the values and indications of radical operation for hernia. The results are deduced from the study of 163 cases presenting 197 hernias. The method used in these cases of external inguinal hernia was that of Prof. Kocker, which consists in drawing the sac back through the inguinal canal and displacing it outward and upward toward the anterior superior spine of the ilium. The conclusions of the study of the above 163 cases are as follows:

1. Radical operation for the cure of hernia is a dangerless procedure and is almost always attended by a cure.

2. Irreducible or strangulated hernias demand most urgently radical operation.

3. Every reducible hernia which cannot be held entirely within the abdomen by an easy-fitting truss, should be radically operated upon.

4. The wish of a patient who has wearied of the trouble of wearing a truss, should be considered as an indication for operation.

5. The operation is contraindicated when the general health is disturbed, or there is disease of a vital organ, and also in drunkards, in whom an outbreak of delirium tremens is to be feared. T.

Hematomyelia from Gunshot-wounds of the Spine

Dr. Cushing (*Am. Jour. of Med. Sc.*, May, 1898) relates two cases of gunshot-wounds implicating the spinal cord, in which the missile lodged in the body of a vertebra and was located by means of the X-rays. The symptoms resembled those of Brown-Séquard paralysis, although the cord was not injured directly. Recovery took place in both cases without operation, but there remained symptoms resembling syringomyelia.

In the case of the first patient, a woman, 27 years old, the ball entered the anterior border of the right trapezius at the level of the cricoid cartilage, and lodged in the body of the seventh cervical vertebra. Right-sided hemiplegia below the level of

the deltoid, biceps, and supinator longus, with pain, supervened. An elevation of temperature of two degrees followed by a chill and further rise up to 104 or 105 degrees, in cases of cervical lesion, means, the writer, believes the onset of basal pneumonia with consolidation on the side of the lesion. It may be connected with the intercostal paralysis. The pyrexia remained for about 28 days in the case of the author. During the next month great progress was made, but a relapse followed, and for another month the patient was much distressed. Slow but steady improvement ensued during the following six months.

Of the subjective symptoms, the most prominent were agonizing numbness and tingling; severe pruritus; burning sensations and lancinating pains, affecting first the left then the right arm. Severe girdle-pain was first complained of four days after injury and recurred at the end of the second month, being most severe on the paralyzed (right) side. Other sensory symptoms, such as icy-cold feet, spasticity of the right leg, cutting pains in the arm, etc., were present at different times. The reflexes were normal at first, became exaggerated forty-eight hours later and were lost after four days. Three days later they reappeared and became gradually much exaggerated.

Motor-disturbances were more transitory on the left side than on the right. Eventually all motion was restored, except in the dorsal flexors of the right foot. special nutritional disturbances were observed in the right hand in the form of swelling, tense shiny condition of the skin, furrows on the nails, and flushing.

The writer maintains that the mere passage of a bullet near the spine may produce symptoms of concussion, but this means a degree of hematomyelia with minute hemorrhages into the cord. Traumatic hematomyelia, he believes, is more common than is generally supposed, whereas the meningeal form of hemorrhage is comparatively rare.

It is quite difficult to differentiate meningeal hemorrhage from that into the substance of the cord. In the former irritative phenomena predominate; there is constantly an acute and immediate spinal pain and radiating pain along the line of the distribution of the nerve-roots involved is characteristic. In the latter form paralytic symptoms are most significant and for anatomical and physiological reasons assume the Brown-Séquard type. Combined lesions may exist.

The observation of Thorburn that traumatic hematomyelia is very rarely met with, except in cases of lesion of the cer-

vical spine, is emphasized by the writer and explained on the assumption that the large amount of gray matter in the lower cervical enlargement favors blood-effusion. He suggests that there is an artery which, like Charcot's artery of cerebral hemorrhage, is the seat of election for such extravasations. These views are supported by the finding of cyst-like cavities in the cord long after the injury and by the resemblance of such cases to syringomyelia.

The writer concludes that

1. Paralytic symptoms following traumatism in the cervical region, when there is no resultant spinal deformity or laceration of the cord, are in the majority of cases due to hemorrhage into the substance of the cord.

2. For the hemorrhage there seems to be a site of predilection in the lower part of the cervical enlargement.

3. The hemorrhage, as a rule occurring primarily on one side, leads to symptoms of a Brown-Séquard type of paralysis.

4. The deep reflexes on the side of the lesion may be retained for a time, then disappear, and finally return to become exaggerated.

5. The hemorrhage being primarily into the gray matter, and in its resolution often leading to cyst-like formation, is productive in many cases of a symptom-complex, quite like that of syringomyelia.

6. The immediate prognosis in this type of hematomyelia is good without operative interference even in the cases of gunshot-wounds, when they are uncomplicated by sepsis.

S.

Urticaria from the Application of Leeches

Dr. Fabre (*Presse méd.*, June 18, 1898) describes a case in which a man perfectly healthy, fell and hurt his side. Six leeches were applied to the lumbar region and four hours afterward the patient's body began to itch very badly and soon after an urticarial eruption covered the entire surface of the body. The eruption lasted thirty-six hours.

R.

Stab-Wound of the Thoracic Duct—Recovery

Dr. W. H. Lyne reports the following rare and interesting case (*Virginia Med. Semi-monthly*, Aug. 26, p. 278): The doctor was called to an emergency-case at one of the police-stations. On entering, information was given by one of the officers that a negro had been stabbed in the neck and that "white blood, like milk, was coming from the wound." A thoracic-duct injury was at once suspected. On examina-

tion an oblique stab-wound about one inch long was found above and behind the left clavicle, and parallel with the outer border of the sternocleidomastoid near its attachment, thus, from the anatomy of the parts, necessitating a longitudinal wound of the thoracic duct. There had been considerable hemorrhage which had stopped, and an abundant milky fluid was steadily escaping from the wound. The doctor was at a loss as to treatment, but as something had to be done he decided to tampon. The wound was washed with a hot carbolized solution and packed with iodoform gauze. The packing had to be renewed repeatedly, each time becoming quickly soaked with chyle. On removing the patient to the hospital three miles distant, the wound was again redressed and the chyle was found still escaping in abundant quantities; but on changing the dressing about seven hours after, the oozing of the chyle had completely stopped. The patient made a prompt and uneventful recovery, being discharged cured nine days after admission.

R.

Ligature of Subclavian in Its First Part

Dr. T. E. Schumpert (*Med. Rec.*, 1898, 337-339) reports a case in which he successfully ligated the left subclavian artery in its first part, for aneurism involving the third part. He quotes the almost universal opinions of the leading surgeons, all of whom deprecate its use and speak of it as one of the most difficult of surgical operations. But Dr. Schumpert says: "When confronted with a malady so universally fatal we are prompted to summon courage and skill and attempt what has heretofore seemed an impossibility." A straight incision was made beginning on the sternum two inches below its crest, and carried across the sterno-clavicular articulation, parallel to but $\frac{1}{2}$ inch external to the inner border of the sternomastoid muscle, the entire incision measuring seven and a quarter inches. He divided sternal attachment of sterno-mastoid, and being unable to go between internal jugular vein and carotid artery, drew these vessels to the outer side and thence to the inner edge of the anterior scalene muscle. He ligated the artery with silk, not drawing the ligature tight enough to sever the internal coats of the vessel. The divided ends of the sterno-mastoid were united with catgut, the skin-edges likewise and primary union was obtained under one dressing. Nine weeks after the operation, the patient was apparently well, helping about the hospital.

T.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Enucleation of Uterine Fibroids

For uterine fibroids, some gynecologists would use palliative treatment, with the hope of tiding over the difficulty until after the menopause; the objection to this plan is that during the intervening years the patient is unable to perform her various home and social duties, and her life is a burden both to herself and to those about her. On the other hand there are operators who would proceed by the too radical method of removing the fibroids, not hesitating at the same time to remove also the uterus and its adnexa if these organs are involved. Wm. Alexander (*Brit. Med. Jour.*, May 21, 1898) would steer a middle course; he would, wherever possible, enucleate the fibroids, either single or multiple, leaving the uterus and adnexa practically intact and free to continue their functions. He has operated thus in eleven cases, some of them very grave, and he has had but one death. The following is a description of one operation: The abdomen was opened in the ordinary way. An assistant with two fingers in the vagina pushed up the uterine tumor into the wound from below; three large fibroids were found, one in the anterior, one in the posterior wall, and one in the fundus. Sponges completely shut off the rest of the abdominal cavity from the field of operation. A vertical incision was made over the anterior tumor until the white surface of the fibroid could be seen; by means of the finger and the blunt dissector the tumor was readily enucleated, and any bleeding points were caught by compression-forceps and tied with catgut-ligatures. The finger then palpated the bottom of the wound for the locality of the tumor in the fundus, and the incision was deepened until the surface came into view; it was also easily removed. In the same way the posterior tumor was also removed through the same opening. A sponge was now stuffed into the deep cavity and left there until a strip of gauze many yards long was produced. The sponge was removed and the cavity was packed with gauze, the end of the single strip emerging from the lower end of the opening into the uterus; the wound in the uterine wall was then closed with numerous superficial and deep catgut-sutures, except where the piece of gauze emerged. A single silkworm-gut suture was passed through the uterus at the upper end of the

incision in its wall, and each end of it through the whole thickness of the abdominal wall at the upper end of the laparotomy-wound tied externally so as to fix the fundus temporarily to the abdominal wall. Before tying, all the sponges were removed from the abdominal cavity, which were found unstained. The laparotomy-wound was then closed in the usual way, except at the emergence of the gauze. This strip drained at the same time the cavity in the uterus as well as the abdominal cavity, which it traversed between the uterine and abdominal walls. The abdominal wound was dressed as usual. After forty-eight hours about a foot of the strip of iodoform gauze was gently and slowly pulled out, and the same amount daily until all was removed. There was no shock, no collapse; there were no complications and recovery was complete. One must be careful not to allow a drop of blood to trickle into the abdominal cavity.

G.

Treatment of Antemature Labors

The doctrine "interfere then when danger presents to mother or fetus" is, according to Dr. Stahl (*Jour. of Am. Med. Ass.*, Vol. XXX, No. 15, p. 864, 1898), applicable to premature as well as antemature labors. If so guided, the general practitioner or the experienced accoucheur will never be too late with his assistance and less often guilty of dangerous though well-meaning anticipatory assistance. The results, so far as the attendant is concerned, will always depend upon the significance attached to the indication and the method chosen to treat the indication, both being interdependent.

A method to be proper and successful, possessing sufficient elasticity to meet the requirements of all cases, must combine the elements of both the so-called conservative and radical procedures, but without the extremes of each, viz., be conservative in the presence of a normal-course abortion; be radical in the presence of an abnormal-course abortion.

Normal-course abortions are those where dilatation occurs without pathological manifestations; expulsion of fetus in abortion is of little or no importance; expulsion occurs *en masse*, or where retention with dilatation of os continues no longer than twelve hours; that is, from morning till night, or night till morning, in both cases without pathologic manifestations. Here he favors the conservative method—to pack and wait—giving nature an opportunity to act.

Abnormal-course abortions are those where dilatation progresses so slowly as to cause serious exhaustion, both physical and

mental; where, with dilated os, retention continues longer than twelve hours; where there is danger, as from infection, serious hemorrhage, chill or sepsis. Here the author favors the radical method of treatment. In the management of abortion the physician must be governed by the extent of the dilatation of the os. To favor dilatation the author uses laminaria tents, notwithstanding objections raised to their use in many directions. He believes unfavorable results have been due to the errors of the operator rather than to the use of the tents, *per se*; he rejects *in toto* the sponge tent. Often the secundines with dilatation may be simply removed with placental forceps, blunt curette, or hooked out with finger.

In the manner of performing curettage, the author said there are those who prefer the blunt curette, and some the sharp curette. Personally, where there is choice, he prefers the finger, and believes that in abortions, as in other forms of labor, to remove the secundines there is no instrument that for safety, information, thoroughness, and differential diagnosis is equal to the finger. In the choice of the finger to curette, the speaker differs from Lusk, in that he uses the middle instead of the index finger, stating that it has a longer reach, swivels better, and is stronger (?). Having emptied the uterus, he irrigates with warm (not hot) 2-per-cent. carbolic solution, not so much for its germicidal effect, as for its cleansing, stimulating, and alterative qualities. He has never found it necessary to pack the uterus after curettage. S.

Fibroid Tumors Causing Inversion of the Uterus, and Their Removal by Traction and Enucleation

B. B. Browne (*Mary. Med. Jour.*, Vol. XXXIX, No. 7, p. 583) reports two cases of the above.

The first gave a history of menorrhagia and metrorrhagia for two years accompanied by considerable pain. An offensive vaginal discharge existed, which gave the impression to the attending physician of cancer of the uterus. Upon examination the vagina was found filled by a large tumor, the lower part of which was in a sloughy condition and bled freely upon manipulation. The fundus of the uterus was absent from its normal position, and the cup-shaped indentation of the inverted uterus was easily made out by rectal examination. Under careful examination the presenting extremity was drawn outside of the vulva, the broad attachment of the pedicle being trued up to the fundus of the now completely inverted organ. The line of de-

markation between the tumor and the uterus was then distinguished and careful enucleation made along this line. In order to keep up steady traction upon the tumor during the process of enucleation, two corkscrews were inserted into it, these being of material aid, as the vulsella would frequently tear out when strong traction was made. When the tumor was finally removed two vulsella were inserted into the vaginal attachment of the cervix which held it firm while the right corner of the uterus was indented and pushed up until complete reinversion had taken place. A silver suture was then passed through the anterior and posterior lips of the cervix so as to hold them together and prevent the uterus from again becoming inverted.

The second patient gave a history of continued metrorrhagia for six months, a discharge of offensive character accompanying. A similar method of removal as in the first case was resorted to, the line of demarkation between the pedicle and the uterus being readily defined.

The writer offers the following conclusions:

1. By traction and enucleation the benefit of normal uterine expulsive power is obtained.

2. The risk of amputating a portion of the uterus or of cutting off a portion of the tumor and leaving it in the cavity is not incurred.

3. A clean intra-uterine surface is left.

4. The diagnosis between a projecting fibroid tumor and inversion of the uterus is perfect.

L.

Ether and Chloroform in Parturition

Dr. Hensen (*Arch. f. Gyn.*, Vol. LV, No. 1, 1898) prefers the use of ether to chloroform in parturition for the reason that the effect of ether upon the uterus subsides after from five to twenty minutes, allowing the uterus to resume its contractions, while chloroform keeps up its paralyzing effect for a much longer time, thus delaying the rapid expulsion of the fetus and favoring post-partum hemorrhage.

S.

The Dangers and Treatment of Dry Labor

To broaden its definition, for practical purposes, G. L. Brodhead (*Gaillard's Med. Jour.*, Vol. LXVIII, No. 6, p. 333) includes all cases in which the membranes rupture during the first stages of cervical dilatation, when as yet the "water-wedge" has much to accomplish. From observations at the Sloane Maternity he found that in fully 15 per cent. of all cases the membranes ruptured either before or with the first labor-

pain; moreover, it occurs nearly twice as often in multiparæ as in primiparæ. That infant mortality is much higher in such cases there can be no question, yet many lives are lost through the failure to recognize the danger. The dangers to the child are two in number—asphyxia and meningeal hemorrhage, the two being frequently associated; the former is due to compression of the placenta or cord between the body of the child and the uterine wall, or, the cord is more likely to be compressed at any point and apt to be continuous.

Then, again, the uterus in a dry labor tends to become exhausted much sooner than it normally would, the tonic contraction interfering greatly with the circulation in the uterine sinuses, this in turn affecting the child seriously. In regard to meningeal hemorrhage, dilatation must be accomplished, as a rule, by the fetal head, in the absence of the water-wedge, the result being, especially in primiparæ, the formation of a large caput succedaneum and oftentimes very extensive moulding. The vertex is naturally exposed to great pressure in this process, the result being hemorrhage into the meninges, with symptoms of pressure, in varying degrees, and perhaps death of the child shortly thereafter. The study of the danger-signals, therefore, becomes one of great importance. First, the escape of meconium from the vulvar orifice, or when the examining finger is withdrawn covered with it (except in the case of a breech), requires the immediate delivery of the mother, the probability of asphyxia being great, with, in some cases, the death of the fetus in utero.

A second sign which may indicate embarrassment of the fetal circulation is that of unusually vigorous movements on the part of the fetus, this activity in many cases leading one to believe that the child is beginning to suffer from the lack of pure blood, and when examination is directed to the fetal heart, changes may be distinguished there. Any marked deviation from what is normal for the case under consideration must be looked upon with suspicion; in general, a fetal heart-action if above 160 or below 120 should be the object of careful attention, for oftentimes it will be noticed that the rate is becoming steadily higher or lower. It should be the purpose of the physician to detect the very commencement of trouble, for by so doing the chances for a successful termination of labor will be much brighter. Even an intermittent or irregular action in a case previously normal should invite close attention. When asphyxia begins the heart-beats are

sometimes muffled, so to speak, or indistinct, although the rate may remain the same. In other cases an umbilical souffle develops, showing probable compression of the funis.

Regarding treatment, the writer asserts that many cases do badly for the reason that they are treated as cases of normal labor. In every case, whether before labor or during labor, a careful examination should be made as soon as possible after the rupture of the membranes or their reported rupture; by so doing one can detect the condition or any accident, such as a prolapsed cord or small part, and moreover make the diagnosis of presentation and position accurately. If the case be one of malpresentation, operative interference immediately after the rupture of the membranes will be possible, with excellent chances of success. The writer's plan to hasten labor in such cases is to administer a large dose of castor-oil and glycerin, followed shortly after by 10 grn. of quinine sulphate, to be repeated every three hours, with $\frac{1}{16}$ grn. of strychnine every two hours. Vaginal douches of 1-per-cent. lysol-solution have also given good results in his hands, about three quarts being given at a time, as hot as can be borne. The use of chloral and opium in dry labor must be a guarded one, in that these cases often need stimulation rather than a period of rest, during which time more and more fluid is escaping. When the progress of labor is very slow, the cervix may be stretched a little every few hours. Regarding operative interference, there is, in the opinion of the writer, one condition of affairs in which much good can be accomplished, namely, in breech-presentation. When a breech-labor is protracted in the first stage, a little chloroform may be given and the hand introduced for the purpose of bringing down one foot, preferably the anterior, with which to make traction from time to time. If both legs are extended, the operation will accomplish even a better result, in that it will have broken up the existing wedge, at a time when the operation is comparatively easy. Coming to the consideration of the second stage of dry labor, the statement made with reference to the first stage holds true here. In addition, if in a half-hour after its commencement there has been little or no advance, the forceps (or extraction if the breech presents) is advisable. In closing, the writer emphasizes his belief that with close observation and prompt, energetic treatment the statistics for both mother and child will be greatly improved.

L.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

The Therapy of Syphilis

Niceli (*Pharm. Centralh.*, No. 19, 1898) advises the use of loose soluble combination of sodium hyphosulphite and mercury to be used intravenously. The injection is made every other day, 1 ccm. of a 1-per-cent. solution. He claims a prompt action with no local irritation nor other bad effects.

I.

The Myxomatogenous Virus

Sanarelli, of Montevideo (*Inter. Med. Mag.*, Vol. VII, No. 8, 1898), thinks that microbes exist in nature which are not capable of detection by the microscope. This opinion is supported by the bacteria of peripneumonia, so recently described by Nocard and Roux, and by the description of a new disease, the myxomatous affection of rabbits in the Hygienic Institute of Montevideo in the beginning of the year 1896. The symptoms were marked catarrhal blepharo-conjunctivitis of both eyes, followed by the appearance of small subcutaneous tumors in different parts of the body, but more especially of the ears and extremities. At the same time the head changes in shape, the mouth and nose thicken, and the openings in the rectum and genito-urinary tract become the seat of acute inflammatory swellings, the hyperplastic process being especially well marked at the juncture of the mucous membrane and the skin, forming one of the most characteristic features of the disease. In the females the breasts become hypertrophic. The condition grows steadily worse and the animal dies in about a week after the onset of the symptoms.

At the post-mortem one finds the subcutaneous tumors to be of a gelatinous appearance, of an elastic consistence, and very vascular; hypertrophy of the lymphatic glands; orchitis, and an increase in size of the spleen. Histologically the subcutaneous tumors are composed of typical myxomatous tissue rich in blood-vessels. The swellings on the eyelids are composed of innumerable new formations made up of myxomatous elements, which increase the thickness of the eyelids tenfold. The swellings of the external openings are due to an edematous tissue of a myxomatous character, and the hypertrophy of the spleen and lymphatics to patches of newly formed myxomatous tissue more or less rich in hemorrhagic infiltration.

Every known means of bacteriological re-

search was tried, without avail, to discover the organism, and Sanarelli concludes that the etiological factor belongs to none of those organized bodies which we at the present time look upon as the cause of specified diseases. The blood, a portion of a tumor, a trace of the secretion of the lids, or a portion of the intestine when properly introduced into a healthy rabbit, gives rise to the disease. Urine, pleural transudate, and the aqueous humor are not virulent. The contagion is spread by the virus coming from the eyes and nose. The serum itself is virulent; and the virulence is increased as the disease passes through more animals, so strong indeed that the animal now dies in five days without the appearance of the external symptoms, the reddening of the eyelids appearing twenty-four hours before death. Attenuation of the virulence may be accomplished by allowing the serum to stand, or by the addition of antiseptics. To kill the myxomatous virus completely more antiseptics are required than for any known bacteria. Moist heat at 55° C. during several minutes, however, destroys the virulence of the contagious products. Mice, guinea-pigs, apes, and birds are not affected; in only one dog did typical symptoms appear, and in this case extensive alopecia occurred in addition to the other symptoms described above. The results obtained on man from virulent serum kept from twenty-four to thirty-six hours in the incubator were—in doses of 5 to 6 cc. injected into the gluteal region—congestive phenomena in the conjunctiva, and edematous swelling and pain of the eyeball. These symptoms disappeared rapidly after the discontinuance of the injections. Vaccination and serum-therapeutics have completely failed, thus again differentiating this substance from the well-known bacterial types. Two rabbits of all those attacked have alone survived the disease, and this immunity was still further increased by numerous injections of virulent blood. S.

Poisoning by Stramonium

Dr. Shaw reports a case of a woman, of 53, who took by mistake a teaspoonful of some antiasthmatic powder, which was found to consist of stramonium-leaves (*Brit. Med. Jour.*, 23, IV, 1898). In about three-quarters of an hour the mouth became exceedingly dry and burning; the drinking of water did not alleviate this burning in the least; the eyesight became blurred, with a peculiar sensation of swelling in the eyes. Everything lifted appeared to the patient exceedingly heavy. There was a great deal of excitement, resembling delirium tremens; the flow of ideas was very rapid and she

talked so fast that only at times was her speech intelligible. The delirium and hallucinations were of a mirthful character, but illusions and delusions were absent. The eyes were bright and staring, the pupils dilated and absolutely insensible to light; but the face was markedly pale, not anxious, and there was no clammy perspiration, the skin on the contrary being perfectly dry. There was incoordination in the lower extremities, but sensation was perfect; power of deglutition at first seemed absent, but if prevented from spitting out what was in her mouth she swallowed it. The author used the stomach-pump freely, then gave her amyl nitrite and hypodermic injections of digitalis; finally he administered hypodermically $\frac{1}{4}$ of a grain of pilocarpine and after that the patient improved rapidly. R.

Whooping-cough Mixture

Dr. Lancaster recommends the following (*Phil. Med. Jour.*):

Tr. Belladonnæ.....	3 ij
Phenacetin.....	3j
Spir. Vini Gallici.....	3 iij
Ext. Castanææ fl.....	3 iss

S. For a child 1 year old, 10 drops every 2 to 6 hours; to a child 10 years old, a teaspoonful may be given at the same intervals. R.

Unusual Nervous Phenomena in Three Cases of Poisoning with Hyoscyamus

The data of poisoning with the narcotics as described in text-books on toxicology are meager and somewhat confused. Each new carefully observed case is therefore of great value and interest. Dr. Krotkoff has had occasion to treat three children who gathered and ate a lot of hyoscyamus-tops (*La Méd. mod. Suppl.*, No. 56, p. 442, 1898). The author found the children—one was 3 years old and the other two 5 years—in a state of extreme excitement. They cried, swore, threw themselves from side to side, and struggled so violently that it required considerable force to restrain them. Occasionally they would emit cries like those in meningitis. They were absolutely indifferent to their environment, recognized nobody, and knew nothing. Occasionally when called loudly they would respond, i. e., they would turn their heads, but here the author noticed a remarkable thing: they would always act as if the sound came from the opposite side from which it really did come. For instance, if the sound calling them came from the left side they would turn their heads toward the right, and vice versa. The author tried this many times with each little patient separately and in each case the result was invariably the same.

A part of the time the children would seem to be deeply absorbed in the contemplation of their own ego, and then they would emit the most unearthly screams and perform the most curious movements: punch their heads, pinch their noses or ears, or imitate the picking of berries, bringing them to their lips and chewing them. Several times they became quiet for a few minutes, but it was the peace before a storm: they would be attacked by terrible convulsions. Each child had from six to seven such attacks, which lasted from three to seven minutes each time. The children recovered under the usual treatment. On the next day they were almost well, though somewhat weak and apathetic. Two of them became jaundiced.

R.

Orexine Tannate in Anorexia

Dr. Josef Bodenstein, of Stainach, reports (*Therapist.*, VIII, p. 163) that he has found orexine tannate to be a valuable remedy in the treatment of children suffering from loss of appetite following anemia and chlorosis, in chronic cachectic conditions such as scrofula, and in diminished appetite, so frequently present in convalescence from severe infectious diseases such as diphtheria. Cases in which the author was unsuccessful in improving the appetite by the administration of bitter principles, or by extended hygienic and dietetic measures, rapidly improved on the administration of orexine tannate, which was given in the form of chocolate tablets each containing 4 grn.

The writer cites the clinical history of five cases, to show the excellent results obtainable. In adults also, the employment of orexine tannate has been very successful, and the author states that he has seen nothing to compare with it as a stomachic in cases of anorexia accompanying tuberculosis. It was found that orexine tannate acts quite as promptly as the orexine base, in the treatment of hyperemesis gravidarum. It was tried in two cases in which all other remedies had only been able to give temporary relief, and found effectual in both cases. Orexine tannate has also been found of value in cases of neurasthenia when accompanied by anorexia. In a case of uremic vomiting which could only be relieved by injections of morphia, orexine tannate was found to be most effective in relieving the vomiting. In convalescence after croupous pneumonia and influenza, it also acted as an excellent stomachic.

The conclusions arrived at from the cases above mentioned were that there were very few cases in which orexine tannate did not

give good results. No undesired by-effects were observed, the remedy agreeing well with the patient in each case. It is invaluable in anorexia of phthisis, anemia, and chlorosis, as well as in cases of atony of the stomach. It deserves a further trial in cases of uremic vomiting. Orexine tannate acted reliably in cases of hyperemesis gravidarum.

After such experience orexine tannate must be described as a most valuable remedy which will, in a short time, take an important place in our *materia medica*, and the author thoroughly recommends it as an excellent and reliable stomachic. F.

Oily Collyria

The *Acad. de Méd.* (May, 1898), according to *Bul. gén. de Thérap.* (August 15, 1898), contains the results of the researches by Panasin in his own name and those of Scrinii on the value of olive-oil and arachic oil as vehicles for alkaloids used in ocular therapeutics. They demonstrate

1. The solubility of the alkaloids themselves or of their fatty salts (stearates) in these oils washed in alcohol and sterilized;
2. Their stability, eserine notably not being transformed into rubreserine;
3. The perfect asepsis of the solutions;
4. Their action as superior, or at least equal, to the corresponding aqueous solutions;
5. The absence of all epithelial alteration of the cornea, following application of cocaine in oily solution;
6. Finally and especially the ease of application, the certainty of penetration of the collyria into the conjunctival cul-de-sac and the suppression of the blepharospasm, which, in cases of perforating ulcer of the cornea and cataract-operation, may compromise the eye seriously.

H.

The Common Nettle in Anemia

Dr. Hjalman Agnér (*Bulletin gén. de Thérap.*, June 8, 1898) calls attention to a remedy in anemia which is exceedingly popular in Sweden, i. e., nettle. He himself was cured of anemia, when he was 17, by taking nettle-soup. One of his patients, a girl of 20, had tried all remedies recommended in anemia, including the preparations of iron, but without apparent benefit; he ordered her then nettle-soup, first every second day; then, when she improved, twice a week. The patient was completely cured. The author treated many other cases with nettle, but as they received other treatment besides he does not care to speak of them in detail. The common or stinging nettle (*Urtica dioica*) and the dwarf nettle (*Urtica urans*) possess the same virtues, but the

first is used almost exclusively. Best time for collection is spring, best part to use is the roots and stalks with only half-developed leaves. It may be used as an infusion—a handful to two quarts of water, two or three glasses of this to be taken during the day; but it is much pleasanter to use in the form of a freshly prepared soup, from the fresh herb. R.

Methylene-blue in Headaches

Dr. Tomson (*Vratch*, p. 801, 1898), of Dorpat, confirms the reports of the excellent effect of methylene-blue in the various forms of headache. He employed the remedy on himself and on five other patients. The results were very satisfactory; only in one case it happened that the methylene-blue worked nicely the first two times, but failed altogether the third time. In the author's opinion the remedy is well worth a trial in all nervous headaches, neuralgias, migraine, and similar conditions. The mode of administration was the usual one: Merck's methylene-blue (the author says this is the only one that should be used, other brands containing chloride of zinc and arsenic) and nutmeg, each one and a half grains (0.1) in gelatine capsules; one capsule twice or three times a day. The urine, except being blue, contained no abnormal constituents; the heart was not in any way affected, and, in short, except an inclination to urinate frequently, in one patient, there were no disagreeable after-effects. R.

Lysol in Pityriasis Versicolor

Dr. A. L. Levy has used on himself and on his patients lysol in pityriasis versicolor with most gratifying results (*Wiener med. Presse*, July 19, 1898). The first three days he painted the affected parts with pure lysol, once a day, and the following days the chest was thoroughly washed with a weak solution ($\frac{1}{2}$ -1 per cent.) of it. The disease disappeared completely in eight days. The applications caused no pain and no irritation of any kind. R.

Ichthyol in Scarlet Fever

Dr. Kolbasenko's favorable results with ichthyol in small pox, and Dr. Strisover's similar results with ichthyol in measles, have induced Dr. Solotarevsky to try this remedy in scarlet fever (*Vratch*, No. 30, 1898, p. 888). He employed a 5-per-cent. ointment, which was applied to the entire body morning and night. The results were highly gratifying. The fever lasted on an average only five days, the temperature not exceeding 102-103° F.; the eruption remained discrete, there were no complica-

tions of any gravity in the kidneys, ears, or glands, no edema, etc. The subjective feeling became remarkably improved from the very commencement of the treatment; on the second day the children demanded food and asked for playthings.

The author employed the treatment in seven cases only, but he says he is convinced of the beneficial action of the ichthyol, taking into consideration the fact that that was a very severe epidemic giving in cases not treated with ichthyol 75 per cent. of severe complications and a mortality of 15 per cent. The author believes that ichthyol increases all the defensive powers of the organism, while exerting no deleterious effect on the kidneys whatsoever. R.

Gastric and Intestinal Antiseptics

Riegner, of Senator's clinic (*Epit. Brit. Med. Jour.*, No. 1961, p. 19), refers to the various views held as to the possibility of disinfecting the contents of the alimentary canal. He has himself continued the experiments of Strauss upon gastro-intestinal antiseptics. Gastric and intestinal contents were placed in graduated tubes, and grape-sugar in equal quantities added. The antiseptic was then added in known quantity in watery or alcoholic solution, and more rarely in powder-form when not soluble. The author gives details of a number of experiments. As regards gastric antiseptics, he concludes that sodium salicylate, $\frac{1}{2}$ per 1000, menthol $\frac{1}{2}$ to 2 per 1000, and thymol $\frac{1}{2}$ to $\frac{1}{2}$ per 1000, have relatively high disinfecting powers. A medium disinfectant action is possessed by quinosol, chloral hydrate, soluble silver, and actol, and only a slight one by even large doses of steriform and ichthyol. As regards intestinal antiseptics, quinosol and thymol arrest fermentation in $\frac{1}{2}$ -per-cent. solution, and delay it in $\frac{1}{2}$ per cent. Silver lactate (actol), bismuth salicylate, or bismuth beta-naphtholate arrest it in 1 per cent., and delay it in $\frac{1}{2}$ per cent. Resorcin, chloral hydrate, silver, benzo-naphthol, and steriform are inferior to the agents above-mentioned. From experiments it becomes obvious that antiseptics behave differently in relation to the stomach and intestine. Thus, menthol is an excellent gastric, but an inferior intestinal, antiseptic. These questions cannot be definitely settled by laboratory experiments, but must be determined by practice. A disinfectant is useless if too poisonous. Again, a gastro-intestinal antiseptic must be insoluble. This insolubility is also a guarantee against intoxication. Extensive contact with the intestinal contents is desirable, and

hence the antiseptic should be given in frequent and small doses. In motor insufficiency of the stomach salicylic acid, menthol, and thymol have been shown to be of clinical value by Strauss. Among intestinal antiseptics Strauss has shown menthol to be worthy of recommendation. Thymol is inferior to menthol, and must be given on a full stomach to avoid irritation. Silver lactate must be given in capsules or pills, which are not soluble in the stomach. Both bismuth salicylate and bismuth beta-naphthol are worth trying in flatulency. Sodium salicylate and quinosol are too soluble. Washing out the stomach and bowel is an important measure. Salicylic acid, menthol 0.25 grm., thymol 0.1 grm., may be added to nutrient enemata. The author comes to the conclusion that these antiseptic agents have a practical if somewhat restricted value.

F.

In Infantile Diarrhea

Dr. Mikhrevich recommends the following (*Month. Cyclop. Practic. Med.*, July, 1898):

Bism. Salicyl.....	grn.xxiv
Gummi Arabici.....	3i
Sacchari Alb.....	3iss
Aq. Dest.....	3vi

S.: Keep on ice. 3i-ii 3 to 6 times daily.

Dr. Tompkins recommends the following combination as an intestinal antiseptic (ibidem):

Hydrarg. Chlor. Mitis.....	grn.ij
Zinci Sulphocarb.	grn.ij
Pepsini.....	3ss
Bism. Subnitrat.	3ij

Div. in pulv. no.xij. S.: One ter in die (for a child one year old).

R.

Ergot in Chronic Malaria

At the last meeting of the American Climatological Association Dr. A. Jacobi read a paper with the above title (*Med. Rec.*, Vol. LIV, p. 387). He said that from an experience of over forty years he is justified in making the following statements. There are cases of chronic intermittent fever with enlarged spleen, that after having resisted the action of quinine, arsenic, methylene-blue, eucalyptus, and piperin, were benefited by ergot. When the enlargement of the spleen was not old and firmly established, the contracting effect of ergot was noticed within a reasonable time. The attacks would disappear before the diminution in the size of the spleen was very marked. Though the temperature after the employment of ergot remained irregular and was now and then somewhat elevated, chills as a rule were not noticed with this elevation. Plasmodia did not seem to disappear from

the blood so rapidly as after quinine, when the latter was effective; but even while some were still present the attacks were more or less under control and the patient would feel better. Complicating local pain required additional treatment with ice or cold douches or heat; chronic hyperplasia demanded iodide of iron; digestive disturbances required an emetic, a purgative, or a stomachic, before the ergot would act. There were cases, occasionally, in which the return of elevations of temperature after a successful use of ergot made the combination of ergot and quinine, or of ergot and arsenic, advisable, though quinine and arsenic had not been successful previously.

R.

Creosote-Injections in Lobar Pneumonia

Dr. E. Schoull, of Tunis (*Bull. gén. de Thérap.*, LXVII, p. 133), reports on the remarkable effects obtained by the use of creosote-injections in lobar pneumonia. He gives the detailed history of three cases, two of which were quite serious, and in all of which the happiest results were obtained by two injections daily of from 20 to 40 drops of creosote, according to circumstances.

F.

Therapeutic Fasting in Typhoid Fever

Dr. A. König (*Pa. Med. Jour.*, July, 1898) quotes to the effect that during the whole course of typhoid fever (except during convalescence) the gastric juice contains neither hydrochloric acid nor peptones, and that consequently it does not digest. He states that fasting: (1) Reduces to a minimum the gas- and toxin-formation of the putrefactive bacteria, (2) increases the resisting power of the patient to the typhoid bacillus, (3) favors ease and comfort, (4) counteracts tendency to diarrhea, and (5) tends to prevent the third or stage of mixed infection.

[It is difficult to conceive how we are going to benefit a patient by starving him through at least four weeks of an exhausting disease.]

G.

Opiates in Bronchitis

The treatment set forth by Dr. W. T. English (*Pa. Med. Jour.*, July, 1898) being of somewhat heroic nature is not applicable in cases of heart-disease, idiosyncrasies, renal disorders, tuberculosis, infectious and asthenic types, and where there are extremes of age. The administration should be at bedtime: $\frac{1}{4}$ grn. of morphine sulphate is combined with 5 grn. of Dover's powder. This is followed in the morning by 1 oz. of spiritus frumenti to

prevent excessive nausea. This dosing may have to be repeated in two or three days. The good results of this treatment have ranged from abortive influence to the speedy calming of impending asphyxia. Following this treatment there have been: (1) Reduction of irritation, congestion or inflammatory activity, (2) alteration in the character and limitation of the amount of the secretion, (3) increase of general comfort by relief of pain, soreness, and removal of cough and incidental insomnia, and (4) speedy and permanent cure in 80 per cent. of the cases. G.

Artificial Serum in Lead-poisoning

Dr. Delearde (*L'Echo méd. du Nord*, July 3, 1898) employed subcutaneous injections of artificial serum (saline solution) in nine cases of lead-poisoning with very good results. The injections were made in the region of the abdomen, and 500 cc. (1 pint) was all that was necessary; only in one case a second injection of 500 cc. had to be given (in two days). The injections had no effect on the paralysis, but acted excellently on the colic, constipation, vomiting, headache, etc. The colic ceased as a rule 5-6 hours after the injection, while on the following day the patient's bowels began to move freely. There was no increase in the secretion of urine. The general condition improved rapidly, pulse became normal, vomiting ceased, and the appetite returned. R.

Bovine in Anemia and Tubercular Pharyngitis

The Report of the Sound View Hospital, Stamford, Conn., cites the case of a girl aged 10, who had been suffering for months from pronounced anemia and tubercular pharyngitis:

Microscopical examination of her blood showed a highly impoverished condition, with not over 1,500,000 red corpuscles to the cmm., and hemoglobin barely three-fifths of normal standard. Examination also revealed numerous tubercle bacilli lining the fauces, tonsils, and pharynx. Patient presented, besides, all the general symptoms of well-defined anemia. Temperature was 100.4, not varying more than one-fifth in twenty-four hours; showing constitutional absorption.

The patient was put on a teaspoonful of bovine in milk every two hours, and a light, easily digested, and nutritious diet; 1 min. beechwood creosote and 10 min. oil of cinnamon every three hours; also 1 dr. of elixir purgans night and morning, to regulate the bowels. The throat was cleared of

septic matter with peroxide on bovine, followed by a Thiersch gargle. With a small tenaculum the papillæ were picked up and sniped off with scissors. Bovine-peroxide and Thiersch gargle were used again; then, by means of a long cotton-carrier, the pharynx and fauces were thoroughly swabbed out with peroxide on bovine. This treatment was repeated twice a day, for eleven days; when no papillæ were discoverable, and the throat, except the tonsils, presented a healthy appearance. The tonsils, being tremendously hypertrophied and almost like scar-tissue, were excised. Following this, the nurse was directed to apply the bovine-peroxide and Thiersch gargle, three times a day. In ten more days the stumps of the tonsils were thoroughly covered and healed, and the throat was in a normal condition. The bovine was then increased to two teaspoonfuls in milk every two hours. Two weeks later the patient was discharged cured.

Broom-tops in Erysipelas

Dr. Testerin (*Vratch*, Vol. XIX, and 27, p. 800) employed compresses of an infusion of broom-tops in 95 cases of erysipelas of the face, and notwithstanding the fact that some cases were accompanied with very severe complications, all cases ended favorably. At first the author employed a solution of sparteine, with which he painted the affected parts. The results were encouraging, but as sparteine is expensive, and consequently not well suited for hospital practice, the author decided to use the crude drug—broom-tops, which are very cheap and contain 0.3 per cent. of sparteine (3 gme. to each kilo). To make the infusion 100 to 150 gme. of the tops are put in a liter of boiling water (3½-5 oz. to 1 qt.) and boiled for about 10 minutes. The infusion, or rather decoction, is then cooled and strained. Sterilized gauze, folded eight times is then soaked in this decoction and applied to the affected parts; on top gutta-percha tissue is applied to prevent evaporation; the compresses must be constantly wet. To prevent fermentation, 5 per cent. of salicylic acid is added to the decoction.

Formula for the Hypodermic Administration of Quinine

Prof. G. Gaglia (*La Sem. méd.*, June 1, 1898) recommends the following formula: Hydrobromate or hydrochlorate of quinine, 1 gme.; urethane, 0.5 gme.; warm water, 1 cc. Make a solution by aid of heat if necessary. About 2 cc. are obtained of a permanent solution which does not precipitate on cooling, has only a weak reaction,

absolutely non-irritating, and therefore excellently suited for hypodermic and even extravenuous injections. The author says that during the solution a new chemical compound is formed, which decomposes in the organism, liberating the quinine. In the quantity employed, the urethane can in no way affect the action of the quinine. R.

Insufflations of Soziodole-sodium in Diphtheria

Dr. Neumann, of Potsdam, reports (*Aerzt. Rundsch.*, VIII, p. 523) having used sodium soziodolate as an insufflation in a particularly severe case of diphtheria, and with most excellent results, a cure being obtained without the necessity of recourse to serum-treatment. The insufflations were made half-hourly, and usually consisted of equal parts of flowers of sulphur and sodium soziodolate. During the hoarseness, a mixture containing 0.025 gme. of pilocarpine hydrochlorate in infusion of digitalis (3:1000) was administered in teaspoonful doses. F.

Antistreptococcic Serum in Scarlet Fever

Dr. Opiensky employed the serum of Marmorek in 10 cases of scarlet fever (*Vratch*, p. 908, 1898). The epidemic was a very severe one. Two cases ended fatally. The favorable effect of the serum showed itself first in the shorter course of the disease; the fever fell generally on the seventh day, and the peeling of the skin was completed by the end of the second week. There were no renal complications; contrary to Marmorek's statements, the serum had no effect in preventing suppuration of the glands. R.

Fluid Extract of Cottonroot

Prof. Mironoff (*Vratch*, p. 911, 1898, No. 31) made a series of investigations on the action of cottonroot, and reached the following conclusions: It has no effect on the uterine contractions, and it is therefore useless in weak labor-pains, subinvolution, etc. It is also useless in uterine hemorrhages due to fibromyomata. But it has a very good effect in metrorrhagia of inflammatory origin. In such cases it must be given in doses of two teaspoonfuls repeated 3 to 6 times a day. [It is well to bear in mind that the fluid extracts made according to the Russian method are considerably weaker than our preparations.] Twenty teaspoonfuls a day, for 2 to 3 days, produce no bad effects; nor are there any bad effects noticed from using 3 to 4 teaspoonfuls a day for several months. In doses of a dessert-spoonful or a tablespoonful every 2 to 3 hours it produces burning sensation in the throat, and dizziness. R.

REVIEWS

An American Text-Book of Gynecology, Medical and Surgical, for Practitioners and Students. By ten Authors and Edited by J. M. Baldy, M.D., Professor of Gynecology in the Philadelphia Polyclinic, Etc. Second Edition, Revised. With 341 Illustrations in the Text, and 38 colored and Half-tone Plates. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, \$6.00, cloth, and \$7.00 half morocco or sheep.

This is a handsome imperial octavo volume of 718 pages and has been revised and rewritten from the former edition. More than forty of the old illustrations have been replaced by new ones. The many improvements in methods that have lately been introduced into gynecology rendered a good deal of the old volume antiquated and necessitated marked changes in the new. No department of medical practice has made greater strides during the past few years, and in none is a thorough revision of the text-books more required. A medical man who attempts to be guided in his treatment of diseases of women by the principles and plans laid down in works published a decade ago will be a "back-number" in his practice and will not do his full duty by his patients. Every practising physician who does gynecological work should certainly possess one or more recently revised editions of books on this subject, and we know of none better than the volume before us. Its wealth of illustrations makes the descriptive text so plain that it is a simple task for even students to master it in detail. Its index is so complete that it is an easy matter to turn to where any particular subject is treated. The type is large, clean, and clear, and the whole subject-matter is arranged with skill and care so that it is a pleasure to glance over or study its contents.

Transactions of the Ohio State Medical Society, 1898. Edited by P. Maxwell Foshay, M.D., Cleveland, O. J. B. Savage Press, Cleveland, O.

This octavo volume of 558 pages, issued by the Ohio State Medical Society, is a very creditable representative of that body. The neat, compact, handy size, the choice, fine-toned paper, the tasteful arrangement, the clear pica-type and well-spaced lines, all contribute greatly to the pleasing form of this book. One is pleased to find its form a truthful index of its quality. The society has issued in this volume a work of real value not to be piled away with blue books, but to be read with keen interest for its wide-awake business transactions of the fifty-third annual meeting of the society and its aggregation of readable and thoughtful scientific matter. One contribution of especial scientific value is "A Summary of Certain Studies in the Morbid Anatomy of Epilepsy," by A. P. Ohlmacher, M.D., Gallipolis, Director of the Pathologic Laboratory of the Ohio Hospital for Epileptics. This laboratory aimed to utilize the material which this institution furnished for the study of gross pathological conditions upon post-mortem observations. Though in use for this purpose only since last July (1897), unexpected and important results have been obtained. The constant presence of the enlarged thymus-gland, hypertrophy of the lymphatic glands, narrowing of the arteries, and development of fat in these cases, together with sudden

death in a few cases, pointed to the so-called "lymphatic constitution," and suggested a clinical, as well as anatomical, analogy with thymic asthma and thymic sudden death.

The doings of the committees in National Legislation show the physicians of this State to be alive to the dangers threatening the profession at large by the persistence on the Senate calendar of bill No. 1063, promulgated by the antivivisectionists. Their action in the premises has been prompt and vigorous.

The book shows Cincinnati to have an Academy of Medicine with 309 members, the State to have 6000 regular physicians, and the State Society to have 865 of these in membership. A good feature of this organization is that it admits all the smaller societies of the State into the dignity of *auxiliary* societies, on condition of subscribing to the Code of Ethics of the Am. Med. Assn.

The great work accomplished by the society, however, has been its establishment of the State Board of Medical Registration and Examination, that has already, in its two years of existence, banished a great horde of quacks from the state, virtually closed the doors of four colleges not deserving to survive, rejected 355 certificates—129 of graduates, 211 of practitioners, and 15 on examination—and, best of all, has established its constitutionality in all its parts by the cases which it has carried successfully through the Supreme Court.

The book will make fine reading for progressive organizers in other states.

The Purification of Public Water Supplies.

By John W. Hill, Consulting Engineer, Member American Society of Civil Engineers, Member American Water Works Association, Member American Public Health Association. New York: D. Van Nostrand Company. 1898.

This volume is one that should be of great interest to all persons interested in the relation of water-supplies to public health. It treats of the causes of pollution of sources of public water-supply, of the effect of this pollution on the typhoid-fever rates of cities, and endeavors to show how these rates have been reduced by introducing water from purer sources. It gives citations of many typhoid-fever epidemics, describes the various types of filters that have been tried on public water-supplies, and classifies cities in accordance with their typhoid-fever statistics. Members of Boards of Health and all who are seeking information regarding the water-supply of cities will find much to interest them in this volume.

Laboratory Work in Physiological Chemistry.

By Frederick G. Novy, Sc.D., M.D., Junior Professor of Hygiene and Physiological Chemistry, University of Michigan. Second Edition. Revised and Enlarged, with Frontispiece and Twenty-four Illustrations. Ann Arbor: George Wahr, Publisher. 1898. Price, \$2.00.

This is a greatly enlarged edition of Dr. Novy's work on Physiological Chemistry, and contains a large amount of new material not found in the former edition. It is designed as a text-book and guide for students in experimental work in the laboratory, and does not therefore cover the same ground as the works of Gamgee, Lea, and other authors of books on Physiological Chemistry. As a laboratory-guide it should be adopted by our medical colleges throughout the country, because it is an

American production, contains only such directions and descriptions as have been verified by actual practice with students, and because it is clear, concise, and definite in all its statements. Its first ten chapters treat of fats, carbohydrates, proteins, saliva, gastric juice, pancreatic secretion, bile, blood, milk, and urine. Chapter xi is devoted to the quantitative analysis of urine, milk, gastric juice, and blood, while chapter xii gives tables for examination of urine and a list of reagents.

An American Text-Book of the Diseases of Children,

Including Special Chapters on Essential Surgical Subjects; Orthopedics; Diseases of the Eye, Ear, Nose, and Throat; Diseases of the Skin; and on the Diet, Hygiene, and General Management of Children. By American Teachers, Edited by Louis Starr, M.D., Consulting Pediatricist to the Maternity Hospital, Philadelphia; Assisted by Thomas S. Westcott, M.D., Instructor in Diseases of Children, University of Pennsylvania. Second Edition. Revised. Philadelphia: W. B. Saunders, 925 Walnut street, 1898. Cloth, \$7.00; sheep or half morocco, \$8.00.

This new edition of Dr. Starr's already well-known work on Pediatrics is a very great improvement on the preceding one. A large part of it has been rewritten and quite a number of entirely new articles added to the text. Recent knowledge of febrile disease made it necessary to rewrite those on typhoid fever, rubella, chicken-pox, tuberculous meningitis, hydrocephalus, and scurvy. Such new articles as lithemia, modified milk, and percentage milk-mixtures with the section on orthopedics, together with the extensive additions made by revising the principal features of the volume, have made it much larger and we can safely add better. As it now appears it is one of the most complete works on diseases of children that can be found in any country, and one that the medical man who seeks to keep in the front rank among practitioners cannot well afford to be without. Every article is written by a specialist well up in his particular department, and in this new revision every page is abreast of the times in the information it seeks to impart. The illustrations are very fine and materially aid the text in imparting information. It would be impossible within the limits of a brief review to indicate clearly the many distinct advantages such a work has over smaller and less complete volumes written by single individuals from their own experience. Here we have the experiences of about sixty leading, well-known, medical writers, each dealing with his favorite feature. This method of producing composite volumes uniting the work of many authors seems to be growing in favor both in this country and Europe, and it is certainly in the direction of progress.

The managers of the various Philadelphia hospitals are considering whether it would be right for them to charge the government the amount usually allowed for the care of sick soldiers or to show their patriotism by refusing all pay. The New York hospitals are said to be drawing 93 cents per day for each soldier cared for, but many of the people in the city of Brotherly Love consider this too mercenary a course to pursue under present conditions. As the various Philadelphia hospitals have a large number of sick soldiers in their wards, the amount due them from the government if they exact it all will be considerable.

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HORATIO C. WOOD, M.O., LL.D., Editor
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THE BULLETIN PUBLISHING CO.

EDITOR'S NOTES

The habitual sacrifice of human life for the benefit of the general good of a community is inherent to our modern civilization. "Some must die that others may live" is an aphorism whose truth will probably remain until the dawning of the millennium. It is, however, plainly the duty of Government to reduce as far as may be the loss of health and life in those who follow the so-called "dangerous occupations." Among these dangerous occupations is the manufacture of matches. Formerly necrosis of the jaw was extremely frequent among the workmen and workwomen in match-factories. It has been proven that this necrosis is due to the local action of the fumes of the phosphorus upon decayed teeth, and that so long as the teeth are in

perfect condition the workers are practically safe. In some of the English factories a regular dental department has been made, without any governmental compulsion, an integral part of the workshop; certainly the law ought to require this to be the case. In the large State match-factories of France the workpeople are now especially selected by medical and dental examination, and are regularly inspected dentally. As the result of this, aided by improved methods of manufacture and ventilation, there has been no case of necrosis during the last two years.

Some one has said that human beings would deny that twice two is four if that truth ran counter to some prejudice. It has hitherto been the universal verdict among intelligent, educated people that a broad, liberal education was beneficial to a man and made him more likely to be of use to his fellows. Biologists certainly have held that no one could acquire a really correct conception of their subject except by the study of different living forms and comparing them. The best-informed scientific biologists in the world, such as Huxley, have insisted on the necessity of studying comparative anatomy to get a true conception of anatomy, comparative physiology to get a true conception of physiology, and comparative pathology to understand pathology correctly. It seems, however, that the requirements of the Spanish-American war have changed all this and for any person to study any more than human pathology and human anatomy is to render him incompetent and unfit as pathologist and anatomist. Such at least is the claim of the yellow journals and we are sorry to see they are backed up in this claim by one of our usually discreet contemporaries. We can in a measure understand the prejudice that inspires the ignorant masses to despise a man however competent he may be for having ever taken an interest in studying and treating the diseases of the lower animals. To call such a man a horse-doctor is to damn him in their estimation. We cannot, however, understand why an educated medical editor could ever possess such an unexcusable bias and are forced to wonder whether it was or was not an attempt to "play for the gallery." We do not wish to be understood as writing this as an apology for any one who might be guilty of placing in a position of responsibility an ignoramus who knew nothing of the human body other than that he had acquired from the study of horses. Such an act would be nothing short of a crime and would merit and should receive severe punishment. To

choose, however, a man who knew how to treat horses as well as men and who could show a record of competence and education should be a praiseworthy and not a blame-worthy act. To know how to treat a horse scientifically is to be the better able to treat a man scientifically, or all the teaching and all the experience of the past is false. If medical editors and lay editors wish to discredit a man holding a medical diploma from a reputable college they should be honest enough to do it on some other grounds than by appealing to the stupid prejudices of the ignorant public. If they possess evidences of incompetence let them produce the same and allow their case to rest on that alone.

A youth named Charles Divinel and popularly known as the "Boy Healer" has lately been giving exhibits of his power before large audiences in New Jersey. He has a manager and a retinue of servants who accompany him and help "enthuse" the crowds so as to get their dollars. Not long ago he brought a partly paralyzed man upon the stage before an audience. After explaining to them that the patient had lost the use of his limbs the healer ordered him to raise his arm. He did so, but it was the well arm. He was next ordered to lift his foot and stamp. This he also did, but it was the unaffected foot. The healer then started a song of triumph, hustled the cripple out of a back door among the cheers of the deluded crowd and then called for paying patients to step forward and have like miracles performed upon them. In spite of all progress, the masses, in medical matters, are as far from being able to render sane judgment as they were a century ago. Charlatanry is more to their liking than science. It promises more and they grasp at the delusive promise in preference to taking the wise advice of those who are their truest friends. There seems but little hope of their ever being any more able to discriminate between the humbug and the savant than they are at present. Nothing short of a medical education could open their eyes and that the masses are never likely to acquire. Natural selection must go on in its work until only such people are left as learn to discredit all medical promises and at the same time are willing to trust to those who make no positive promises but do the best possible for them. People jokingly speak of the "fool-killer" coming along, but there is more than a joke underlying the apt applications sometimes made to the expression. The "fool-killer" is at work in the direction here indicated and he is not sparing in the number he takes every year. Be-

tween boy healers, Christian scientists, osteopaths, and others of like character the wonder is that more are not taken than really are.

PUBLISHERS' DEPARTMENT

TUBERCULOSIS OF THE LUNGS.

Dr. Landon B. Edwards, Professor of Practice of Medicine, University College of Medicine, Richmond, Va., reports in Vol. LIII, No. 15, *New York Medical Record*, thirty-five cases of tuberculosis of the lungs treated by serum with eleven total recoveries, and by recovery he means, disappearance of bacilli, healthy respiratory action, chest-expansion increased from one to two and a half inches, flesh increased to normal. The patients look well and according to physical signs and symptoms are well. He notes other patients improving and states that the record is greatly better than he ever obtained with any other treatment than serum and that he had used no other serum than Paquin's, of St. Louis.

NEWS

The Woman's Medical College of St. Petersburg, Russia, receives no students without a written permit from parents or husband expressing their full willingness that she may study.

The Mississippi Valley Medical Association held its annual convention at Nashville, Tenn., on October 11 to 13. Dr. J. Y. Brown, of St. Louis, presided. The attendance was large and the papers numerous and good.

The assistant superintendent of the Toledo, Ohio, State Hospital for the Insane had, not long since, an encounter with a strange dog, that lacerated his hand severely. He went to Chicago after the encounter and there developed rabies.

The Utah State Medical Society held its fourth annual session in Salt Lake City, October 5 to 7. The attendance was good and papers interesting. Dr. C. M. Wilson, of Park City, was chosen president for the coming year. The meetings terminated with a banquet.

The *New York Tribune* of September 26 reports the experience of a kind-hearted New York lady who sought hospital-care for the sick infant of a poor family. After visiting several and trying to get it admitted she finally gave up in despair and called on a private practitioner, who responded promptly to the call.

Plans are in preparation for a new medical department for Columbia College, New York, to be built on First avenue, between Twenty-seventh and Twenty-eighth streets. The structure will be about 100 by 200 feet, and will cost about \$500,000. Several Philadelphia contractors will be invited to estimate on the work.

A secret fraternal order of physicians has been started in Cleveland, O., under the title of the "Palmar Arch." The object is said to be the advancement of physicians in professional work through exchange of ideas. The intention is to make of it a national organization and confer charters upon similar organizations in other cities.

The students of Detroit Medical College on October 5 undertook to imitate the barbarous habits of some of the old universities by having an annual rush. Windows were broken, clothes torn, jewelry scattered around promiscuously and blood was drawn. The whole affair was a rowdy exhibit and childish mimicry of the universities.

The *Denver News* reports an epidemic of nervous unrest among a large number of the people of that region. They describe the feeling as one of impending calamity. It has been variously explained as due to the excitement attending the preparations for their carnival, to the forest fires that are raging in the mountains and to atmospheric conditions.

The eighth annual meeting of the Western Surgical and Gynecological Association will be held at Omaha, December 28 and 29, 1898. Surgeons and gynecologists, and those interested in the progress of these specialties, are cordially invited to affiliate themselves with the Association. The secretary will be glad to send application-blanks. Titles of papers should be sent to the secretary, George H. Simmons, Lincoln, Neb., as soon as possible, but not later than November 20, to insure a place on the programme.

A special dispatch to the *Baltimore Sun* says that David Price, of North Anderson, Ind., has brought suit against Dr. E. W. Cox, of Huntington, W. Va., for \$5000 damages. The case is a very peculiar one and grows out of a recent visit the doctor made to Indiana. While there he performed some hypnotic feats, and Price's wife claims that he mesmerized her and that since that time she has loved him better than her own husband. The woman came here searching for Cox, claiming that she was still under his influence and that she wanted him to break love's spell. The husband came along a few days later, and the result is that a damage-suit was entered against Cox.

The Minnesota State Board of Health has issued the following notice to the medical profession and public:

The State Board of Health requires from this time on that the quarantine for diphtheria shall continue for four weeks from the time of the appearance of the disease in any patient, or, in lieu thereof, that quarantine be regulated by bacteriological examinations. With the bacteriological regulations there must be two negative reports, from a responsible laboratory, upon smears taken from the throat of the patient by some responsible person. The time for the quarantine of scarlet fever shall be six weeks and quarantine shall be released then, only on condition that the process of desquamation is complete.

The twenty-sixth annual meeting of the American Health Association met in Ottawa, Canada, on September 27 to 30, with ideally favorable weather prevailing. The attendance was very large and the meetings enthusiastic.

A resolution was adopted favoring the appointment of a commission of United States, Canadian and Mexican medical men to endeavor to have the Bertillon system for the classification of diseases adopted in the respective countries, and as far as possible to unite with European countries that use this system.

Many interesting and valuable papers were read treating on questions of sanitation and methods of controlling contagious and infectious diseases. The presidential address of Prof.

Charles A. Lindsay was particularly interesting. The new president is Dr. George H. Rohe, of Baltimore, Md., and the next place of meeting Minneapolis, Minn.

The formal opening of the newly created medical department of Cornell University took place October 4th, in the building formerly devoted to the uses of the Bellevue Medical College, No. 414 East Twenty-sixth street. President J. G. Schurman, of Cornell University, came down from Ithaca to preside over the exercises, and his address was the feature of the evening. Seated on the platform with Dr. Schurman were many of the professors of the medical college, among whom were Dr. William M. Polk, the dean; Dr. L. A. Stimson, Dr. R. A. Witthaus, Dr. W. Gilman Thompson, Dr. George Woolsey, Dr. H. P. Loomis, Dr. J. Clifton Edgar, Dr. Austin Flint, Dr. F. S. Dennis, Dr. F. W. Gwyer, Dr. I. S. Haynes, Dr. J. E. Winters, Dr. C. S. Bull and Dr. N. M. Shaffer. The medical college recently received a magnificent gift, which includes a valuable site in First avenue, money for the erection of buildings, and an endowment-fund. The name of the giver was not made public, but it was generally believed to be Colonel Oliver H. Payne. The building to be used at present belongs to Bellevue, and will be occupied by Cornell until the new plant proposed can be finished. The clerk of the faculty announces that a large number of students have applied for admission, and a full set of classes has been assured at the outset.

General Leonard Wood since his appointment as military governor of Santiago has demonstrated the ability of a medical man to keep down disease and improve the health of a community when given full control. The death-rate has steadily dropped since he began his sanitary work and when compared with the corresponding dates of previous years shows results that are most remarkable and gratifying in their decline. In Dr. Wood's letters to Secretary Alger he describes the difficulties he had to overcome and describes the sanitary condition when he began as frightful. He says that there were a great many unburied dead in the houses, between two and three thousand Spanish wounded and sick, and a great horde of half-famished and sick people, nearly 20,000 in number, who had just returned from El Caney, where they had gone during the siege. The water-supply of the city had been cut off; there was no water to be obtained except from cisterns and a few wells, and the streets were full of dead animals and all sorts of filthy materials. He had to start in from the bottom and repair the waterworks. Then came the removal of the dead. Some of these were burned, because the number was so great and decomposition had advanced to such an extent that they could not be buried.

With a force of 170 men constantly at work he removed accumulations of indescribable filth from the streets, set a force of physicians at work looking after the sick, of whom there had been an average of about 700 to look after. He has had to act as police-judge for the whole population and settle all disputes. Under his supervision about 15,000 rations have been issued to the poor every day. Committees of prominent citizens have voluntarily assisted in each ward by making a house-to-house canvass and reporting cases of sickness, poverty, and unsanitary conditions. Swampy places have been drained, the streets swept clean, and everything placed in such a condition of healthfulness as was never before heard of in a Cuban city.

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EDITORIAL

ELECTROCUTION

Vigorous growth is usually attended by excessive development, which for the production of symmetry requires the use of the pruning knife or the application of some of Nature's methods of stimulation and repression, such as the light and shade in the forest. Altruism has had an enormous growth during the middle and latter years of the present century, as is shown not only by many useful humanitarian enterprises, but also by various excrescences. Reaching over from the human to the lower animal, it has forgotten its real purpose and in the ravings and strivings of the anti-vivisectionist would sacrifice the man to the beast; sometimes also it forgets the sane in its desires for the insane or it may be sacrifices the law-abiding in its sympathy with the criminal.

Among the humanitarian absurdities has always seemed to us to be the New York law and practice of electrical execution. The intent and justification of the judicial taking of life is not to wreak vengeance on the man who has sinned against the law, but to protect society by deterring others from following his example. The more repulsive to the average individual an execution is made the greater is it as a deterring power, provided always that the law does not over-leap itself and be guilty of down-

right cruelty in its methods. There is no reason for supposing that death by hanging is, if the execution be properly performed, a painful one. It should be instantaneous, and even in the rarest cases but one or two moments of consciousness would be left to the sufferer. No one really knows whether he who is electrocuted suffers more or less than he who is hanged, and the complication of the process and the scientific pyrotechnics surrounding it are to our thinking bad. It has always seemed to us the prostitution of science.

A recent article, on the execution of Martin Thorn, by Dr. Joseph Alan O'Neill, would seem to indicate that the doctor who helps to carry out the law may after all be the real executioner of the criminal. When the supposed corpse was turned over to Dr. O'Neill, both the pupillary reflex and the cremasteric reflex existed; "yet there was an immediate autopsy," of which Dr. O'Neill says:

"The law requires the post-mortem mutilation. It is, in fact, a part of the penalty; for, as it reveals no cause of death and teaches nothing of interest to science, it is evident that its purpose is to complete the killing. If this is true, then that section of the law relating to the autopsy should be repealed at once. If the convict is dead, he will stay dead, without the autopsy. If he is alive, then the autopsy is a crime that outrages all decency, a crime a thousand times more horrible than the homicide

for which the convict forfeits his life. Humane motives undoubtedly prompted the enactment of the existing law, but as long as the clause requiring an autopsy before there are positive signs of death continues a part of the penalty, humanity will receive a shock from each succeeding execution. To be hanged, drawn, and quartered was the sentence of the middle ages. To be rendered helpless by an electric shock and then disemboweled by doctors, before the body is cold, is the decree of our twentieth-century courts. The physician is not expected to pass upon the merits of capital punishment, but the profession at large should protest vigorously against performing the legitimate functions of a hangman."

THE BULWARKS OF QUACKERY

A NY unbiased analysis of the success of quackery in all its protean forms will reveal the fact that ignorance, fear, and self-interest are the forces that keep it alive. Only so far as the growth of civilization is a growth in intelligence among the masses does it in any degree check the career of the charlatan. People never suffer themselves to be humbugged when they are fully conscious that humbuggery is being tried upon them. The fear of being humbugged far more frequently helps than hinders quackery. When we are ignorant of a subject the best reason in its behalf is always the worst to us. Because of this the argument of the ignoramus is far more taking than that of the educated man.

The quack's explanations always satisfy the ordinary mortal, when he attempts to reason on medical matters, far better than those of a skilled physician. The nearer medical science approaches perfection the farther it gets away from the understanding of the lay mind. In this respect it but

follows the course of all science. This is exceedingly unfortunate for medical science, inasmuch as the masses will insist upon explanations in all matters appertaining to their health. To attempt to give them true explanations is in almost every instance to be discharged, inasmuch as they refuse to consider the effort satisfactory. The only way to satisfy them is to adapt the answer to the mental capacity of the enquirer. The ignorant quack in giving an answer that seems reasonable to himself is pretty certain to give one that will prove quite satisfactory to his patient, since that patient, being on the same mental plane in medical affairs, will look at the matter in much the same light as he does himself. Patients are thus led to think that the quack knows what ails them and how best to treat them, while they assume that the scientific man knows nothing about the case and will, if retained, do harm. It has thus come to be the habit among the best physicians to endeavor to evade as much as possible the direct questions put to them about their cases unless talking to other medical men. They do this for the same reason that mathematicians never try to explain problems in trigonometry to the chance acquaintances they meet in the street. Every advance in knowledge invariably carries the specialist in that branch of knowledge farther and farther away mentally from the possible ability of others to grasp his meaning or appreciate his thoughts.

In consequence of this we are as a race being forced more and more to accept on faith the statements and guidance of experts. When we cross the ocean we never dare to question the accuracy of the captain's calculations of the ship's movements. When we take a case into a court of justice we rely implicitly on our lawyers. When we wish to know the quality of water con-

tained in a given well we do not insist upon the chemist satisfying us regarding how he reached his conclusions. We accept what he says without question. In cases like this we all see how useless it would be and withal how silly for us to interpose a doubt. Why do men refuse to trust their lives with as perfect confidence in the hands of physicians as they do in those of sea-captains? Many do so. It would be better for the world if all could. The existence of unrestricted quackery makes it impossible for all to do so. The fear of maltreatment brings to thousands the very thing they fear. It forces them into an attempt at using their own judgment in a matter that they are incapable of making a sound judgment upon. It leads them to choose quackery in preference to science because their minds can only grasp false conclusions in matters that are far beyond their mental ability to appreciate.

Why cannot something be done toward getting rid of quacks? The one answer to this is that too many people are financially interested in the maintenance of quackery. When vested interests are opposed, honor, honesty, truth, and progress must step aside. Quacks are liberal advertisers and always have been so. Newspapers and magazines lead the public mind. As long as this condition lasts the masses are not likely to learn the truth very soon. But for the influence of the newspapers it would be an easy matter to force education upon all who attempt to treat the sick. Once educated and they would themselves lose faith in their present methods and use better ones. Once get rid of the present baneful influence of the press and it will work a revolution of more importance to the life and health of the race than any thing that has happened for centuries. There is but one way to bring about such a change. Medical men must take into

their hands the education of editors. If the average newspaper editors, and particularly those who edit religious papers, could be shown how positively immoral their present course is, a start would at once be made toward better things. Until they are taught there can be no hope for the masses.

When so able a writer and thinker as the editor of the Washington, D. C., *Times* can make no better a defense of the quack than he did in his issue of October 26, under the heading of "The Practice of Medicine," it is evident that the task would not be so great as it at first might appear. He seems to think that the credulity of the masses in medical matters is itself a proof of the inefficiency of the medical profession. He tells us:

It is surely unbecoming in medical journals to ridicule the credulity of the masses of mankind in the light of the many fallacies that have ruled the profession and in the light of its present uncertainties in therapeutics. What the profession has learned of value is that most of its dogmas were fraudulent. Any man who should attempt to cure disease in this day by the methods of the regular profession of only a century ago would be condemned as a quack more mischievous than all the army of "healers" who have found some use for a discovery of which they exaggerate the importance as much as the profession undervalues it. In spite of its greater knowledge of physiology and psychology, the medical profession neglects the virtues of moral treatment and thus opens the way to persons who magnify them. It makes large claims to exclusive authority in healing because of studies that have as little apparent influence in the treatment of disease as the knowledge of microbes.

To our knowledge many editors look at the matter in this light and excuse the great immorality of their advertising columns by such logic. That the profession is now free from the fallacies and uncertainties of the past gives it the right to ask that the masses step forward and for their own good gain the advantages of this prog-

ress. If the profession has learned that most of its dogmas were fraudulent the more reason it has to use any fair weapon to force the public to accept the new order of things. Has not astronomy the right—yea, is it not its duty—to ridicule out of existence the insane notions of astrology? Because our mechanics have discovered that energy is persistent must they not cast ridicule on the perpetual-motion cranks? When alchemy developed into chemistry did it not have the right to cast fun at the fellow who persisted in trying to turn lead into gold or mixtures of drugs into elixirs of life? If the credulity of the masses is evidence of the inefficiency of medical science or of the medical profession then the credulity of the Hindoos over measures of cleanliness and sanitation is evidence of the inefficiency of these to save them from plague. The fact of the matter is that credulity is, in every case where it appears, a cause not consequence of inefficiency. It is the credulity of the masses that makes medical practice as inefficient as it is. It is the selfish interests of the lay and religious press that keeps alive this credulity by constantly playing upon fear and ignorance. Instead of teaching them, as it should, to rely implicitly on the consensus of the competent, it teaches them to doubt every result of the competent and to rely on the statements of ignoramuses and charlatans.

The opposition to medical science as evinced by the public is precisely like the opposition of the Chinese to railways, telegraphs, electric lights, and machinery. Chinese credulity makes them believe that their old methods are the best. The vested interests of their teachers are opposed to the innovation of the new things. The old pays them better. They therefore keep alive the animosity against the new and manfully fight for the mechanical quacks

of the dead past. It is exactly the same in India so far as sanitary science is concerned. Japan made its wonderful leap in civilization because it quit hugging the quacks and took to accepting the consensus of the competent. There is no other way for a race to develop fast. Our civilization is being held back because our people will not accept the conclusions of the competent in medical matters. When editors learn to treat doctors as they do sea-captains and lawyers it will be better for them and for all mankind. They would not think it right to advertise and protect river-pirates, sea-pirates, and shyster lawyers that have no standing before the bar. They will advertise and influence legislation to protect worse criminals in the form of medical quacks.

Stypticin in Uterine Hemorrhages

Dr. Jos. von Braitenberg, of Innsbruck (*Wien. med. Presse*, No. 35, 1898), reports on the use of stypticin in 24 cases of uterine hemorrhage treated by him. The remedy was given in doses generally of 0.05 gme. (1 grn.), repeated, if necessary, 5 to 8 times daily. In particularly severe hemorrhages, or where the effect was very promptly desired, the single dose was increased to 0.1 to 0.2 gme. (1 2-3 to 3 1-3 grn.), intramuscular injections of a sterilized 10-per-cent. solution into the buttocks. No unpleasant by-effects were ever observed to follow the employment of the remedy. In uncomplicated hemorrhagic endometritis the effect was very slight, doubtful, or even none at all, but, after curetting, the consequent hemorrhage was always promptly controlled. A sedative effect, as noted by some observers, was not appreciable, at least in the doses given. In hemorrhages due to displacement of the uterus, or to perimetritis, parametritis, or inflammatory changes in the adnexa, the action was invariably excellent. Profuse and protracted menses were always reduced, and success was also obtained in hemorrhages due to no demonstrable anatomical changes. In a case of hemorrhage during pregnancy, and in which abortion was being considered as necessary, seven tablets of 0.05 gme. (1 grn.) sufficed to check the hemorrhage, and prevent abortion. In hemorrhages of myoma, only one case was treated and that unsuccessfully.

AMONG THE EDITORS

DISPARAGEMENT OF THE REGULAR ARMY SURGEONS

Among all the accusations of executive incompetency brought by the press of the country against the medical department of the army, we have seen but two attacks made upon the professional attainments of the members of the medical staff. These attacks appeared simultaneously: the first anonymously in a non-medical paper in this city; the second, over the signature of Dr. N. Senn, of Chicago, in the *Journal of the American Medical Association* of September 3d. In an article on "The Qualifications and Duties of the Military Surgeon," Dr. Senn says, basing his conclusions on an experience of five months in the camp and field, that the surgeons of the United States regular army, while men of superior education and splendid physical development and (those who have been in the service several years) well versed in the routine work of the medical department, are inferior in all matters pertaining to medicine and surgery to the national-guard surgeons.

The inferiority of the army surgeon, Dr. Senn says, is the natural outcome of circumstances. "The young army surgeon has to spend many years at small and often out-of-the-way posts, where the opportunities for clinical experience and intercourse with professional colleagues are necessarily limited. He naturally soon falls into the monotonous and routine work of the post life, with little or no inducements to continue his post-graduate scientific and medical studies. When the time comes to pass an examination he wakes up from his lethargy sufficiently to go through the different compends to prepare himself for the coming ordeal. He breathes easy after he has reached the major's rank, as this promotion forever closes the door of the much-dreaded green room. From now on he is in the line of slow promotion without any extra exertions on his part. He receives his salary and looks confidently for assignments to posts where he can spend the balance of his life in ease and luxury. He

has reached a time in life when he feels that he can avail himself of the work of his subordinates without interfering with his emoluments or his position in social and military life. He is conscious of the fact that he has reached a rank and a station in life where it is proper for him to look to his assistants to do the drudgery which he had become accustomed to in the past, and begin to enjoy the life before him." Then follows a list of the reasons why the military surgeon taken from civil life must be far better than his colleague in the regular army.

Leaving aside the question of taste involved in such a comparison made by one who is himself a "military surgeon taken from civil life," we cannot regard this public disparagement of the army medical corps as other than cruelly unjust. Any one who has ever come in contact personally or professionally with the members of the medical corps of the United States army knows that, possibly with rare exceptions, they are the equals in scientific attainments of their professional brethren anywhere in the country.

—*Medical Record.*

HOW IS THIS?

Commenting on the improvement of military surgery in the present war with Spain, through the use of the X-ray to locate bullets and diagnose fractures, the *New York Times* remarks that:

"Nothing is more inspiring than the readiness and skill with which the medical profession utilizes the revelations of science for the diminution of human suffering."

This is inspiring so far as true. But we wonder what the editor would say if he knew that the "revelation of science" that has effected more striking results than any other since the world began, in the diminution of human suffering and the sustentation of sinking human life under diseases, wounds, and surgery—namely, the revelation that the free introduction and application of bovine blood is perfectly available and effectual as a succedaneum to insufficient human blood—is a revelation which the leaders of the medical profession obstinately refuse to utilize, or even to look at or speak of in any way. While they con-

stantly and vigorously denounce every quasi-medical treatment which they deem fallacious, they pay the blood-treatment the homage of absolute silence, finding nothing to say against it. But, although it has been before their eyes, and working wonders in the hands of many physicians and surgeons of the best standing, for three or four years past, they deliberately sit on and suppress, with all the weight of their silent influence, the "revelation" of a life-saving power which they cannot match in efficacy with the whole armamentarium of their medical practice, put together. Nothing can induce them to admit so much as a casual mention of the new science of hemotherapy, or blood-treatment, into any of their publications or discussions. One of their periodicals, probably the principal one in America, has been known to falsify a well-known surgeon's report of a wonderful cure of gangrene with bovine blood, by actually substituting for the name of that agent the name of a drug, and so publishing it! Our good neighbor will find it hard to believe these things. But they are all true, and susceptible of strict judicial proof.—*Modern Medical Science*.

A STORY OF CHICKAMAUGA

Members of the American Medical Association have no doubt been troubled in mind during the progress of what we may now call the late war, by the continued attacks in the press on the Medical Department of the army, from the surgeon-general at the War Department and his officers of every grade in the general and division hospitals down to the gallant medical men who dressed the wounded under the fire of the Spanish sharpshooters at the crossing of the Aguadores river. The sanitary conditions in the home camps have also been severely criticised, and the onus laid on the shoulders of the Medical Department. The injustice of this criticism has led Major R. Stansbury Sutton, Chief Surgeon, U. S. Volunteers, to discuss with a free pen the conditions existing in the camps in Chickamauga Park. It takes a man of large experience and mature mind to deal with these subjects, for some of them are of a nature

so delicate that the average man would probably pass them over in silence because unwilling to suggest the existence of a stain on the moral character of any of the gallant young men who volunteered to carry our flag to victory. Dr. Sutton charges much of the sickness that prevailed in the volunteer camps at Chickamauga to the dissipation of the men. It would probably be difficult to verify the alcoholic excesses by any official record, as men on pass usually sober up before returning to their commands, and the men reported as seen by the doctor were probably all on pass. Whether his estimate of the prevalence of venereal disease will be substantiated by the official statistics remains to be seen; but we recall the fact that these diseases were so prevalent in certain army corps, camped near Memphis and Nashville during the Civil War that special military methods had to be adopted for their suppression. The medical officers on duty with the ambulance corps at Chickamauga no doubt did their duty in drilling the men of the hospital companies in first aid: and if they spent their leisure otherwise than in medical reading and study, allowance must be made for the deteriorating influences of camp-life. The Red Cross and other national relief associations receive due credit for their work, and the stories of cruelty and neglect that have filled the newspapers are shown to be false.—*Journal of American Medical Association*.

FEES AND PHYSICIANS

Do the people estimate the value of a physician by the fee he charges? It certainly seems so sometimes, and it is the opinion of a good many business men in the medical profession that it is always so. The profession knows that the high-priced physician is not always the best, but the people fancy him when they imagine they are afflicted with some obscure complaint. Many men have made good fortunes by taking advantage of this, while their contemporaries are still plodding along upon a bare living. Each practitioner must be his own judge as to the value of his services. If he underestimates them he is alone to blame.—*Kansas Medical Journal*.

CURRENT TOPICS

SOME NOTES ON THE MORPHOLOGY AND DEVELOPMENT OF THE BLOOD-ELEMENTS

G. Masslow (*Archiv. f. Mikroskopische Anatomie*, Vol. LI, heft 1) presents an extended study of the blood-elements. Of the white corpuscles he distinguishes the following varieties:

1. Small lymphocytes, about the size of or smaller than the red cells, with a round, sharply defined nucleus; protoplasm slight and no granulations.

2. Large lymphocytes, larger than red corpuscles. Nucleus round, often elliptical, with an apparent indentation. Greater protoplasmic content, and having granules in pathological conditions.

3. Mononuclear leucocytes, larger than the preceding. Nucleus always oval, with one or more indentations. Cell-protoplasm markedly developed, mostly homogeneous, seldom with basophile granules. In leukemia these cells contain eosinophile granules.

4. Polymorphonuclear leucocytes, very large, nucleus irregular, protoplasm containing neutrophile granules, seldom having eosinophile granules; often homogeneous.

5. True multinuclear leucocytes, similar to the preceding, but having constantly two or more distinct nuclei.

Between all of these forms transition-stages are to be noted; all are developmental stages of one and the same forms.

In the blood of guinea-pigs and cats, leucocytes with neutrophile granules are found. In the blood of birds, leucocytes with rod-like granules are noted, each granule having a lighter portion in its center. Such granules are also found in the leucocytes found in the blood of the splenic vein of cats.

The red blood-cells are developed from the marrow of the bones and the spleen, in the latter the splenic pulp alone is concerned.

J.

THE PSYCHOLOGY OF HYPNOTISM

F. N. H. Myers (*Lancet*), at the recent meeting of the British Medical Association, delivered an address on the "Psychological Side of Hypnotism," in which he said that if a somewhat closer approach could be made on the psychological side, this must needs be by bringing into comparison a great mass of cognate life-phenomena, such as hysteria, ordinary sleep, and somnambulism. The analogies and differences between hypnotism and hysteria were particularly in-

structive. Both in hypnosis and hysteria there were disaggregations of the personality, at first apparently similar, afterward seen to be governed by quite different laws. To understand what happened in either case it was convenient to picture to one's self human personality as in a certain sense stratified, part of it lying above and part of it below the threshold of consciousness, the level above which thought or sensation must rise in order that it may enter into our waking life, or become subject to our voluntary control, or find a place in our chain of memories. The characteristic trouble of hysteria was that fragments of faculty, of power, of sensation, or motion, which it was desirable to retain above the conscious threshold, were apt to sink down below that threshold and thus to become useless to the hysterical patient. For instance, the patient would suffer from hysterical paralysis, say of one leg, or from a diminution of her field of vision, while yet there was no perceptible organic injury to brain or leg or eye. What was thus lost could not be recovered at will but might, nevertheless, be suddenly restored for a time or permanently by some shock, as when a hysterical paralytic patient recovered the use of her limbs in the terror of a fire, or was able to discern a terrifying object such as a stuffed mouse, when it was brought into that part of her normal field of vision of the use of which hysteria had deprived her.

With the hypnotized subjects, on the other hand, the case was quite different. They were able to recall at will from beneath the threshold any faculty or sensation which they might have lost through hysteria, so that in just the ways hysteria could destroy, hypnotism could fulfil, and they were able also to send down beneath the threshold and dismiss from consciousness sensations which they wished to get rid of, even such insistent sensations as the pain of an operation or child-birth. The next point of great psychological importance was the analogy between hypnotism and sleep. The essential fact of sleep was the shutting-off of the supraliminal life—the life concerned with facts above the conscious threshold—and the consequent increase of inward subliminal recuperative power. Hypnotism in the first place made our entry into this regenerative phase of our personality easy and certain. It did more than this, for in hypnotic trance the subliminal plasticity was more marked than in ordinary sleep and the subliminal control intenser, so that hypnosis sometimes seemed to be to sleep what sleep is to waking. Indeed, the leading facts of hypnotism, both for physician and for psychologist, the facts

which called most pressingly both for explanation and for development, were those profound sanative regenerations which had now so often transformed the dipsomaniac and morphomaniac into self-controlled and useful members of society. But how, after all, was this further control over subliminal plasticity—over the *vis medicatrix naturæ* actually reached. The consensus of hypnotists now declared that the secret lay in suggestion.

But what was suggestion? Did the hypnotizer infuse power or merely evoke it? The speaker believed that in some cases there was actually a transmission of power, of some subliminal power akin to what he termed "telepathy." But in many cases there was manifestly no such transmission; the hypnotizer merely taught the subject to start self-suggestions of his own. What it was that made self-suggestions effective, that helped him to take hold, no theory could at present tell us. It was, however, the duty of science to clarify, to utilize, to interpret whatever of real self-suggestive efficacy might lurk in any superstition in any extravagance. Science must subject to her own deliberate purposes that intelligent vital control, that reserve of energy, which lay beneath the conscious threshold and worked obscurely for the evolution of man.

S.

COLOR-TESTS FOR DIABETIC URINE

Bremer (epit. *Brit. Med. Jour.*) says that both in diabetic urine and blood the color-reactions do not depend on the presence of sugar. In two clean and dry test-tubes 10 cc. of normal and diabetic urine respectively are placed; 0.5 mg. or less of finely rubbed up gentian-violet is then allowed to drop on to the surface of the urine. In diabetic urine the superficial layers of varying depth are colored blue or violet-blue, and this color does not disappear on shaking. In normal urine, even after shaking, no color, or only the faintest trace, is developed. Merck's gentian-violet B is the best. In low temperatures the reaction is not so marked, hence in winter it is well to place the test-tube in a water-bath. The addition of mineral acids or sugar to normal urine will not lead to the development of this color-reaction, which is really due to the presence of reducing substances in the diabetic urine. With urines of unusually low specific gravities (under 1015), the reaction may approach that seen in diabetic urines. When, however, the reaction occurs in urine of high specific gravity the presence of diabetes is certain. If non-diabetic urine of moderate specific gravity gives a doubtful reaction, due to the abnormal solubility

of the violet coloring matter, there is a disturbance of metabolism. The author adds that the reaction may throw some light on some of the many obscure points in the composition and chemistry of normal and diabetic urines.

G.

THE OMENTUM

A. R. Kieffer (*Med. Rev.*, Vol. XXXVII, No. 25, 1898) remarks that the anatomic relation of the omentum teaches us that this membrane is adapted to the absorption of whatever can be handled by the lymphatics. The function of the omentum spread out over the contents of the abdominal cavity not only, apron-like, protects against changes of temperature, mechanic injuries, etc., but is constantly on guard, ready to remove from the peritoneal cavity all obnoxious substances capable of being handled by the lymphatics, and to form adhesions to prevent the extravasations of inflammatory products. In the performance of these functions it exhibits a splendid anatomic arrangement, and an alertness challenging admiration.

There is no point in the abdominal or pelvic cavity to which it will not migrate whenever its absorptive function is demanded. In cases of inflammation in the region of the gall-bladder, the writer found the whole omentum up over the transverse arch of the colon clinging to the inflamed parts. When the site of the inflammation was in the region of the spleen it was found there. When one tube was involved it was found clinging here in a desperate endeavor to prevent a general infection, and when both tubes are setting up a local peritonitis, we find it impartially administering to the necessities on both sides of the pelvis. It is first the patient's, then the surgeon's greatest friend. No portion of it should be uselessly sacrificed by a surgeon.

S.

DOUGHT WE TO BATHE NEW-BORN CHILDREN?

P. Bar (*Jour. des Prat.*) first envelops the stump of the cord in wadding and then removes fatty matter from the skin by means of cotton dipped in alcohol, which leaves the skin a little reddened and does not produce desquamation if the alcohol is not too pure. At the end of two days he removes all but a small hard stump of the cord, which latter he covers with iodoform gauze and absorbent cotton and bandages. No baths are given, but the nurse is instructed to wash with boiled water the buttocks when soiled, using cotton instead of a sponge. No erythema follows this practice. The more baths the more frequent the cases of erythema. This is the method of choice for

children's hospitals and for poor families in private practice where there is any doubt as to cleanliness. In better private practice, he neglects the bath until there is complete cicatrization of the cord. Alcohol-friction occasionally over the body and washing the buttocks as often as necessary will suffice. On the fifth or sixth day regular baths may be begun.

H.

THE CHEMISTRY OF HEMOGLOBIN

As a result of an observation that the addition of potassium ferricyanide to a dilute solution of oxygenated blood gave rise to bubbles of pure oxygen gas, and that no such gas was given off from reduced blood, J. Haldane (*Journal of Physiology*, Vol. XXII, 1898, p. 298) concludes regarding this and allied phenomena. He gives as the summary of his chief conclusions:

(1) When ferricyanide is added to solutions of oxyhemoglobin or carbonic-oxide hemoglobin, the gas combined with the hemoglobin is set free and froths off, while methhemoglobin is formed.

(2) By taking advantage of this reaction the volume of gas capable of being absorbed by the hemoglobin of blood may be rapidly and accurately determined without the use of the blood-pump.

(3) Although methhemoglobin yields no oxygen to a vacuum, it parts with its oxygen to reducing substances far more readily than oxyhemoglobin does.

J.

URINALYSIS

Hugo Qumma (*St. Louis Med. Gaz.*, June, 1898) lays down the following principles concerning urinalysis in practice:

1. Every treatment should be preceded by urinalysis.

2. When in the course of treatment specifics are used, urinalysis is required repeatedly.

3. When convalescence is reached and before the patient is dismissed, urinalysis is absolutely necessary.

4. The treatment of the various forms of nephritis, especially those most commonly associated with uremia, require urinalysis, partly to prevent uremic attacks; partly to control the therapeutic measures.

5. In all chronic cases the determination of nitrogen secreted is necessary from time to time in order to investigate the nitrogen-balance.

6. All operative procedures in which anesthetics are used require urinalysis, not only for nephritis or diabetes, but also for "temporary insufficiency of kidneys."

G.

ADDRESS

THE HUXLEY LECTURE ON RECENT ADVANCES IN SCIENCE AND THEIR BEARING ON MEDICINE AND SURGERY

Delivered at the opening of the Charing Cross Hospital
Medical School on October 3.

By PROF. DR. RUDOLF VIRCHOW,

University of Berlin

The honor of being invited to deliver the second Huxley Lecture has deeply moved me. How beautiful are these days of remembrance which have become a national custom of the English people, and through which the memory of intellectual heroes is kept alive to posterity! How touching is this act of gratitude when the celebration is held at the very place wherein the genius of the man whom it commemorates was first guided towards its scientific development! We are filled not alone with admiration for the hero, but at the same time with grateful recognition of the institution which planted the seed of high achievement in the soul of the youthful student.

That you, gentlemen, should have entrusted to a stranger the task of giving these feelings expression seemed to me an act of such kindly sentiment implying such a perfect confidence that I at first hesitated to accept it. How am I to find in a strange tongue words which shall perfectly express my feelings? How shall I in the presence of a circle of men who are personally unknown to me, but of whom many knew him who has passed away, and had seen him at work, always find the right expression for that which I wish to say as well as a member of that circle itself could? I dare not believe that I shall throughout succeed in this. But if in spite of all I repress my scruples it is because I know how indulgently my English colleagues will judge my often incomplete statements, and how fully they are inclined to pardon deficiency in diction, if they are convinced of the good intentions of the lecturer. I may assume that such a task would not have been allotted to me had not those who imposed it known how deeply the feeling of admiration for Huxley is rooted within me, had they not seen how fully I recognized the achievements of the dead master from his first epochmaking publications, and how greatly I prized the personal friendship which he extended towards me. In truth, the lessons that I received from him in his laboratory—a very modest one according to present conditions—and the introduction to his work which I owe to him, form

one of the pleasantest and most lasting recollections of my visit to Kensington.

The most competent witness of Huxley's earliest period of development, Professor Foster, presented in the first of these lectures a picture of the rapidly increasing extension of the biological knowledge, which must have excited not only our admiration but also the emulation of all who study medicine. Upon me the duty is incumbent of incorporating with this presentment the newer strides of knowledge, and of stating their influence upon the art of healing. So great a task is this that it would be presumptuous even to dare to attempt its accomplishment in a single lecture. I have decided, therefore, that I must confine myself to merely sketching the influence of biological discoveries upon medicine. In this way also will the example of Huxley be most intelligible to us.

Huxley himself, though trained in the practical school of Charing Cross Hospital, won his special title to fame in the domain of biology. As a matter of fact at that time even the name of biology had not come into general use. It was only recently, as I showed in my lecture "On the Position of Pathology amongst Biological Studies," that the idea of life itself obtained its full significance. Even in the late middle ages it had not sufficient strength to struggle through the veil of dogmatism into the light. I am glad to be able to-day, for the second time, to credit the English nation with the service of having made the first attempts to define the nature and character of life. It was, as I then pointed out, Francis Glisson, who, following expressly in the footsteps of Paracelsus, investigated the principium vitæ. If he could not elucidate the nature of life he at least recognized its main characteristic. This is what he was the first to describe as "irritability," the property on which the energy of living matter depends. He thus succeeded in setting aside the mystical idea of the spiritualistic Archæus which Paracelsus and his followers had placed in the forefront of their deliberations, and in locating the principium energeticum in matter itself.

How great was the step from Paracelsus to Glisson and—we may continue—from Glisson to Hunter! According to Paracelsus, life was the work of a special spiritus which set material substance in action, like a machine; for Glisson matter itself was the principium energeticum. Unfortunately, he did not confine this dictum to living substances only, but applied it to substance in general, to all matter. It was Hunter who first announced the specific nature of living matter as contrasted with non-living. But

he also did not attain perfect clearness of vision, because in the development of English medicine the idea had been allowed to take root and grow, that life was not bound up with structure, so that Hunter also was led to place a *materia vitæ diffusa* at the head of his physiological and pathological views. Hence he arrived at the assumption of the so-called plastic substances in respect of which the blood served both as rallying-point and seat of formation, and so it happened that in place of the old Greek humoral pathology which Paracelsus had overthrown, a new humoral pathology arose—hematology. According to the teaching of Hewson and Hunter, the blood supplied the plastic materials of physiology as well as the plastic exudates of pathology.

Such was the basis of the new biological method, if one can apply such an expression to a still incomplete doctrine, in 1842 when Huxley was beginning his medical studies at Charing Cross Hospital. Of pathology in England, John Hunter was the accepted master, and so remained for many years thereafter. So great was his influence that Continental medicine also recognized it. To this I can myself testify, as I was at this time at the end of my university studies. It would lead too far afield were I to recount in this place how it happened that I myself, like Huxley, was early weaned from the pernicious doctrines of humoral pathology; it must suffice to say that salvation lay in the same science which had already once before, in the sixteenth century, brought about deliverance from humoral pathology. It then came about that Vesalius threw over the authority of Galen and founded human anatomy upon direct observation, on necropsy. Since then anatomical studies have been much widened and improved. When Huxley himself left Charing Cross Hospital, in 1846, he had enjoyed a rich measure of instruction in anatomy and physiology. How great this was can be gathered from the interesting statistics which Professor Foster has collected with the aid of Huxley's distinguished fellow student, Sir Joseph Fayrer. Of the lectures which junior students attended, 140 in each of the three years of study were devoted to anatomy and physiology. Thus trained, Huxley took the post of naval surgeon, and by the time that he returned, four years later, had become a perfect zoologist and a keen-sighted ethnologist. How this was possible any one will readily understand who knows from his own experience how great the value of personal observation is for the development of independent and unprejudiced

thought. For a young man who, besides collecting a rich treasure of positive knowledge, has practised dissection and the exercise of a critical judgment, a long sea-voyage and a peaceful sojourn among entirely new surroundings afford an invaluable opportunity for original work and deep reflection. Freed from the formalism of the schools, thrown upon the use of his own intellect, compelled to test each single object as regards properties and history, he soon forgets the dogmas of the prevailing system and becomes first a sceptic and then an investigator. This change, which did not fail to affect Huxley, and through which arose that Huxley whom we commemorate to-day, is no unknown occurrence to one who is acquainted with the history not only of knowledge but also of individual scholars. We need only point to John Hunter and Darwin as closely allied examples.

The path on which these men have achieved their triumphs is that which biology in general has trodden with ever-widening strides since the end of last century; it is the path of genetic investigation. We Germans point with pride to our countryman who opened up this road with full conviction of its importance, and who directed towards it the eyes of the world—our poet-prince Goethe. What he accomplished in particular for plants others of our fellow countrymen achieved for animals. I recall Casper Friedrich Wolf, Döllinger, Joh. Friedrich Meckel, Carl von Baer, and our whole embryological school. As Harvey, Haller, and Hunter had once done, so these men began also with the study of the "ovulum," but this very soon showed that the egg was itself organized, and that from it arose the whole series of organic developments. When Huxley after his return came to publish his fundamental observations, he found the history of the progressive transformations of the contents of the egg already verified, for it was by now known that the egg was a cell, and that from it fresh cells, and from them organs, arose. The second of his three famous papers, that on the relationship between man and the animals next beneath him, limned in exemplary fashion the parallelism in the earliest development of all animal beings. But beyond this it stepped boldly across the border-line which tradition and dogma had drawn between man and beast. Huxley had no hesitation in filling the gap which Darwin had left in his argument, and in explaining "that in respect of substance and structure man and the lower animals are one."

Whatever opinion one may hold as to

the origin of mankind, the conviction as to the fundamental correspondence of human organization with that of animals is at present universally accepted. All biological science; especially physiology and pathology, creates hence the impulse to corresponding studies, and in particular all that has to be based on experiment must in the first instance be investigated in animals, while all that requires morphological confirmation finds support in comparative anatomy, histology, and embryology. The basis of our comprehension of the theory of medicine actually rests nowadays on minute microscopy, for the elaboration of which the animal tissues form an indispensable control-object. Suffice it to say that in scientific biology the division between man and beast becomes less and less defined, but only let it be remarked the division between the abstract man and the abstract animal. It is the same relation as meets us in the differentiation between plants and animals. How many definitions of this have been put forth in the course of time, and how one after the other has been wrecked! But if we place a given animal and a given plant side by side we overcome the difficulties which we had only raised by our own definition.

The greatest difficulty in biology has arisen in this way—that mankind, following a natural tendency, has set the search after the unitary basis of life in the foreground of its consideration. As a matter of fact, what is more natural than the conclusion that life as a special phenomenon must also have a special basis, and that the material process of life must be derived from a common cause? During the last century an attempt was made to satisfy this claim by the assumption, with ever-increasing conviction, of a special force—vital force. Nowadays we can still perceive the logical errors which this assumption rendered possible. Time has, however, passed judgment upon it, and to-day no one continues to speak of vital force. And yet the necessity for a single basis of all vital manifestations remains. How is this to be satisfied? This is a question which is not alone of great theoretical interest, but which has become an indispensable foundation for practical work, and particularly for medical practice. But in order to reach this foundation, it is first of all necessary to dispense with all the dogmas of the schools, and to seek to construct an objective picture of the nature of vital processes.

As regards material construction, man, and the higher animals and plants, are no unitary, simple beings; on the contrary, they are put together from many units.

They are hence called organisms. If they possessed but one single power which set all their parts in action, it would be impossible to understand how the special kind of activity which each one of these organisms exercises in its individual way comes about. This specific activity is present in the organism not alone in its perfect or fully grown form, but also during its development and growth. How can a single power, whether we call it in the spiritualistic sense spirit, soul, spiritus rector, or, in the physical sense, vital force or electricity, build up such diverse organisms? Or if this power resided in a single organ—were it in brain, or spinal cord, or heart—how could those brainless and heartless creatures be explained which present so abnormal a condition that at the beginning of this century they were the proper battleground of the mystics?

There is here, in my opinion, only one solution possible. The life possessed by the higher organisms is not a single one. Their life and all their activities only become intelligible when we go back to the exact representation, based upon a kind of instinctive observation, of the life of their parts. Each constituent part of a living organism has its special life, its *vita propria*. No one of the older authors proclaimed this more distinctly than Paracelsus. But he at once undid this good idea again by attributing to each living part a particular spiritus, a special Archæus. The best of the succeeding biologists were also held by this notion as in a snare; instead of busying themselves in the observation of *vita propria*—that is, the action of the parts, they continued to devote themselves to research on the Archæus.

The advances in general science based upon personal observation, and particularly those in medicine, have completely turned the attention of true observers to the study of individual parts. As I pointed out at the Medical Congress at Rome,² it stands most clearly revealed in the history of pathology that the division of the body first into larger regions (head, breast, abdomen, etc.), then into organs, then into tissues, and finally into cells and cell-territories, was the first step which opened up to us the comprehension of disease. The study of regions was followed by that of organs, and this again by that of the tissues, and finally by the cellular theory. But what is true of pathology must hold also for physiology, and as a matter of fact physiology has passed through the same developmental phases. One gradually comes to understand that the life of the individual parts is perfectly clear if one

looks away from the Archæi of the organs or the tissues, and keeps in view only the life and activities of the single cells. For the life of an organ is naught else than the sum of the lives of the single cells which are gathered together into it and the life of the whole organism is not an individual but a collective function.

If such a collective being is analyzed, no matter whether it be the whole organism, or a single organ, or only one tissue which is presented in its vital activity, the first requisite for a correct interpretation is that one should discard the fabled unity, and should regard the single parts, the cells, as the factors of existence. Single cells can be separated out even in a complex organism, but we should with difficulty arrive at a satisfactory theory if we did not also meet with single free-living cells in Nature. These have provided the first basis for objective investigation. Unicellular plants and animals have during this century been continually more fully and better studied. Botanists and zoologists have become the teachers of physiologists and pathologists. The ova of animals and the corresponding germ-cells of plants have bridged the gap between isolated living cells and higher organisms. It was the recognition of this fact which first raised the famous theorem of Harvey to the high position which it merits.

In a medical school, where the teaching is almost entirely concerned with human beings, we might put this sentence at the head of the lesson: "The organism is not an individual but a social mechanism." An exact anatomical analysis of this mechanism always brings us at last to cells; they are the ultimate constituents of all tissues as they were their origins. Hence we call them the living elements, and hence we regard them as the anatomical basis of all biological analysis, whether it has a physiological or a pathological object in view.

In relation to this two propositions must be stated: (1) That every organism, like every organ and tissue, provided it is alive, contains cells; (2) that the cells are composed of organic chemical substances, which are not themselves alive, but the mechanical arrangement of which determines the direction and power of their activity.

The first proposition has of late slowly come to be realized. Schwann, who recognized the origin of tissues from cells, still clung to the opinion that in the further development of many tissues the cells were used up. Among these he reckoned that important group which has subsequently become known as the supporting tissues, because it ensures form and stability to

single organs, and to the whole organism. First among these stand the osseous and connective tissues, which also form so large a fraction in the quantitative constitution of higher organisms. The conception of the osseous and connective tissues as free from cells must now be given up. Where formerly only empty spaces or mere leaks (*lacunæ*, holes) were seen in the tissue, we now can demonstrate actual cells. We can even isolate them. Hence it is now desirable that the name "tissue," in the sense of living tissue, should be applied only to such parts as contain living cells. Outside the cells the tissue may contain a more or less rich share of organic (chemical) material, but this intercellular or extracellular substance must be regarded as an additional endowment, and not as a vital factor. Such parts as arose originally from living cells, but of which the cells have perished, must be excluded from biological consideration. As examples may be adduced the epidermis and the hair belonging to it, together with the enamel of the teeth. These consist in reality of dead tissue.

As regards the second proposition that no living organic chemical substance exists, the fact has been objected that all living matter is put together from organic chemical materials; but whoever raises this point must have well-nigh overlooked the fact that these two kinds of substances, the living and the non-living, cannot be identified with one another. In spite of chemical similarity or even correspondence, they exhibit recognizable differences, not alone physiological, but also mechanical and physical. Thus since the application of dyes has secured us a glimpse of the variety of the finer mechanical, or if one may say it molecular, arrangements of matter, it has become possible to differentiate living and non-living parts *de visu*. We are admittedly only on the threshold of these investigations, but the latest researches upon ganglion-cells have shown that even beyond the effects of staining differences between living and no-longer living parts may become optically recognizable.

The enthusiasm with which for centuries the doctrine of formative principles and nutritive materials was built up has already become much abated, and has, in part, been entirely abandoned, through the knowledge that no single chemical substance, no kind of nutritive or formative material which can be employed as such, and without further change, for the origination or formation of cells, has ever been found outside the living organism. And yet a chemist of Liebig's importance ac-

tually believed that fibrin could be conveyed directly from the meat consumed into the juices of the body, and thence deposited in the tissues. This was a misconception—a relic from the time of the old humoral pathology—which regarded the living body and its constituent parts as arising simply from the coming together of a few ground-substances (*humores cardinales*). Hence arose the doctrine of plastic materials which were pre-existent in the food and blood. With an obstinacy which was only surpassed by their superficiality, these theorists remained convinced that the plastic materials as such effected the construction and maintenance of living matter. They failed to see that the nutriment taken in had first to be prepared by special juices secreted by the cells of the digestive organs, and that both the digestive material and the plastic substance of the blood were rendered assimilable only by means of a new change, which had to be effected by the agency of the tissue-cells.

The doctrine of plastic material appeared to have gained new strength through Schwann's cell-theory. One must be careful not to misunderstand this designation. Since the cellular theory of animal and plant life has been established, many have maintained that Schwann's cell-theory is identical with it. Not only is this not the case, but the two stand in exact opposition to one another. Schwann assumed, and believed himself to have directly observed the process, that cells arose in undifferentiated matter, in a fluid or a semi-solid mass, in the following way: First, small particles of a firmer kind were separated off, then these came together into little heaps or clumps, by the internal transformation of which a cell-nucleus gradually arose. Round this a new precipitate of firmer substance now slowly accumulated, and from this arose the body of a cell. Hence the original amorphous substance would be the special constructive material, while the nucleus was the true cell-builder; Schwann called the former *cytoblastem*, the latter *cytoblast*.

It is obvious that from these premises people must have been logically led to the conclusion that every form of organic tissue or organism, every kind of new cell must be separated from the preceding by a definite gap (*hiatus*), so that each new formation must be grouped as a discontinuous vital origin. Strangely enough, this classification arose and was accepted at a time when Darwin was already at work proving that new species arise by the modification of pre-existing forms. But Schwann's cell-theory was in truth a resus-

citation of the archaic doctrine of spontaneous generation (*generatio æquivoca*, epigenesis). With the rule of such a creed Darwinism was incompatible.

The supports of this *generatio æquivoca* have been, as far as zoology is concerned, gradually demolished. The formation of tissue-cells from the egg and its partition has been observed throughout the whole animal kingdom. Apparently eggless animals, such as the cestoids and trichinæ, have one after the other been brought under Harvey's law; we know their eggs, their embryos, and their wanderings. There remains, in fine, but one great domain, though this is of the highest importance: it belongs particularly to pathology, and is that of the plastic exudates, which accompany the most important clinical processes, particularly the inflammatory.

It will readily be understood that so essentially pathological a subject would have but little interest for pure natural philosophers. They left it to medical men, who have to occupy themselves with it all day long. But in medicine this territory was held sacred; no one doubted that therein spoke old, well-attested experience. We old students were endowed with the so-called theorem of the plastic exudates from our earliest studies. Translated into our latter-day parlance, such a theorem would recognize discontinuity in most pathological new formations; it would establish—and this is well worthy of note—the grounds for the dogma of the origin of life from non-living matter. Experience has taught us the exact opposite.

Permit me here, gentlemen, to speak a little more personally than is elsewhere my intention. Perhaps it will be more intelligible to the students of this hospital, and will make more impression if I narrate how I myself arrived at quite other views.

It was towards the end of my academical studies, more than fifty years ago, that I had to take up the work of assistant in the ophthalmic clinic of the Charité Hospital, at Berlin. My attention was at once directed to the diseases of the cornea. We had severe cases of keratitis, but I saw in them no exudation; numerous cataract-operations were performed and the wounds closed, but not by plastic exudation; this was absent from all corneal scars. Could this be explained by the circumstance that the cornea, apart from its circumference, is a non-vascular tissue? My interest was at once focussed on the non-vascular tissues. I turned first to the articular cartilages, and behold, here also I found the greatest changes without the presence of exudation, or, at any rate, of plastic exudation. I need

only recall the form of inflammation which I named *arthritis chronica deformans*, and which is described by French physicians as *arthrite sèche*. My experimental studies on the inflammation of the walls of blood-vessels showed that the equally non-vascular intima of the larger arteries, and in part also that of the veins, can undergo great changes without even a trace of exudation being produced. Later on anatomical investigations on endocarditis led to the same result, provided that parietal thrombi were not regarded as exudations. But in all these cases and in every place there were found changes in the tissue-cells, active such as swelling, multiplication of nuclei, etc., or passive as fatty degeneration.

I next turned my attention to vascular organs, and in particular to those which were recognized by pathology as the common seats of exudation-processes. I refer, first, to the medullary infiltration of the lymphatic (follicular) tissue of the intestine and mesenteric glands in typhoid fever so strikingly depicted by the Vienna school: instead of the amorphous albuminous exudate which was described, I found only cells, and cells of the same kind as those which are normally present in these situations. The same was revealed in the so-called caseous exudates which were at one time ascribed to scrofula, at another to tuberculosis; the cheesy material was admittedly in the main amorphous, but it was in reality not an exudation at all, above all, not a primary product of disease, but rather the secondary product of degenerative necrobiotic changes in parts of the tissues, which had formerly been organized, and not infrequently actually hyperplastic.

It is not necessary to go further into details in order to show how great is the realm of this pseudo-exudative process. But I cannot help referring to another series of morbid processes affecting the bones. It was whilst studying rickets that I first learnt the biological significance of the cartilage-corpuscles, the nature of which had till then been interpreted in very different ways. I believe that I was the first to distinguish in these corpuscles what must be actually recognized as cells from the merely capsular and extracellular coverings. The rachitic disturbance now brought into fullest evidence an appearance, which was repeatedly misunderstood even by later observers; this was the increase of these cells by division, and the consequent growth of the cartilage.

It was not difficult to follow out the direct transition of the epiphysial cartilage into the periosteum of the neighboring bone, and thus into connective tissue. At

this time the whole world was convinced of the correctness of the statement made by Duhamel that increase in thickness in the long bones was affected by the periosteal vessels exuding a nutritious juice out of which the new bone-substance was formed. Pathologists had extended this formula to periostitis and the formation of exostoses and hyperostoses; they assumed that between the periosteum and the bone a plastic exudation was excreted and stored up, in which the new osteophyte arose by secondary organization. The consequence of my investigations was that in not one of these spots, neither in the cartilage nor in the periosteum, neither in normal growth nor in rickets or periostitis, was organization preceded by the presence of a recognizable amorphous exudation. On the contrary, it was indubitably shown that the first stage of the changes was an active productive process of cell-multiplication; that at the same time the intercellular substance altered in character and underwent a series of successive changes till it assumed an osteoid appearance; and that then, and not till then, followed calcification and true ossification. There was also no difficulty in adducing the proof that the separate stages of these processes in cartilage and in periosteum ran a perfectly parallel course, although the new tissue was in the one case at first true cartilage, in the other only cartilage-like. If one wishes to designate this process in general it must be called proliferation. Most of these processes are of the nature of proliferation. Whoever calls the proliferative layer an exudation will never obtain an objective view of the actual proceeding.

There is thus not the slightest necessity for the genuine observer to hold to the arbitrary and totally erroneous formula of a plastic exudation. There is no such thing as a plastic exudation which is ever simply amorphous; the cells which may be found in it have not arisen there. With this proof, which can be obtained in numberless other places, the doctrine of the discontinuous origin of pathological new formations is set aside. Every such new formation presupposes a tissue from which its cells arise; this is its matrix. There is no difference in principle between the descent of men and animals from one mother and the descent of pathological new formations from one matrix. Pathology has been somewhat late in arriving at the knowledge of this correspondence, but I think that it has acquired especial value for biology in general.

In order to avoid misunderstanding, it may be noted that not every living cell is

capable of becoming a matrix. All cells which are destined for the highest animal functions prove sterile, or at least very hypothetically capable of proliferation. Ganglion-cells, primitive muscle-bundles, red blood-corpuscles do not come under consideration as regards the theory of pathological descent. The more indifferent cells, on the other hand, above all those of cartilage, connective tissue, and epithelium exhibit a marked proclivity to bring forth new cells. Many cells again, such as bone-corpuscles and fat-cells, require a special preparatory metaplastic stage before they can produce a new brood.

Proliferation is an active property of special cells. That it cannot be performed by all cells alike in no way alters the fact that it can only be performed by cells. It is just as little a function of an entire organism, for this itself would then have to be unicellular. In this property lies the explanation of the origin of a whole organism from a single egg-cell, that wonderful process which comes to pass but once in the life of an animal. Once tissues have arisen each cell of a matricial tissue may in respect of proliferation be compared to an ovum; it brings forth a new progeny from which new tissue grows. This tissue bears, as a rule, the stamp of its matrix—it is built on the maternal type. This is the nature of descent, and herein lies the key to the knowledge of heredity, that puzzling appearance with which mankind has ever busied itself.

According to the humoral theory heredity was derived from the body-fluids and in particular from the blood. According to this idea the blood furnished the means of the continuance of the family and the race; blood-relationship explained the similarity not only of the juices but also of the organs and the whole body. The blood according to its nature determined the goodness or badness of the organization; noble blood generated noble men and healthy organs, bad blood a debased posterity and organs predisposed to disease. In scientific works naught remains of these fantastic surmises; they persist like a superstition in lay circles, but no one now maintains their correctness in serious debate. In their stead has arisen the recognition of the particular value of the mother tissue and its cells. These are the factors of inherited properties, the sources of the germs of new tissues and the motor power of vital activity.

During the development of a higher organism the constitution of the individual tissues changes; they become differentiated by means of metaplastic processes which are in their turn connected with cells and

cell-territories. Thus it comes about that people have for ages spoken of dissimilar parts. The complete full-grown organism is built up of similar and dissimilar tissues; their harmonious working gives the impression of a unity of the whole organism which is as a matter of fact non-existent. For the further the organism develops the more its social constitution comes into evidence. It consists of innumerable independent parts which together constitute a single social body. If we take the ultimate elements of these parts we must call them all without exception cells, for cells alone are truly alive and scientific judgment is in the last instance concerned with them.

So little is the whole organism a definite unit that the number of its living constituents is in the highest degree inconstant. Looking at the gross structure of organs we are accustomed to regard a certain number of them as typical peculiarities of human beings or the various genera and species of animals. We expect to find two of each paired organ and one of each unpaired in a single individual. Man, like all other mammals, has a fixed number of bones and teeth, and these numbers are rightly used as diagnostic of man or of the particular variety or species of animal. But these numbers form no essential condition of existence; a man with six fingers or seven toes remains a man, just as a lung with supernumerary lobes or a kidney with an excess of *coni medullares* remains a lung or a kidney. A woman with three, four or even more mammary glands is thereby no more a lower animal than a man with a tail would be. These are *theromorphs* ("sports") which can have no influence on our opinion as to the sex of the affected individual or its position in the animal scale.

But it will be a long time before general opinion on the significance of "sports" will, even among experts, become unanimous. One sect will connect them with decent, and see in them a proof of atavism; while the other will regard them only as a pathological formation, and will trace this back to an acquired lesion. During the last century we have gone through violent disputes as to whether certain malformations were inherited or acquired. Those who pinned their faith to inheritance had very generally the *arrière pensée* that the variation was atavistic, and the question soon presented itself as to whether the atavism was derived only from human ancestors, or whether one would have to go back as far as the lower animals to account for it. A universally valid explanation of *theromorphism* has not yet been found. In

my opinion it will never be found. Each single example must be separately studied and explained, and the general value of this explanation will be by no means increased if we find atavism in any single case. Doubtless an acquired variation can also be transmitted, and the circumstance that it is animal-like (*theroid*) does not go to prove a not acquired but atavistically transmitted condition. In connection with this I may refer to my paper on *Race-Formation and Inheritance*.³ I can here discuss only the principal ground for the disputes regarding hereditary diseases which are special to pathology.

Medical men are accustomed to describe as hereditary all diseases which reappear in different generations of the same family. Thus one speaks of hereditary arthritis, hereditary tuberculosis, hereditary cancer. It is in fact not difficult to produce genealogical tables which demonstrate the recurrence of a paternal or maternal disease in children or grandchildren. Much trouble has been devoted, in my opinion without result, to seeking the germs of such diseases in the ovum or the semen. One is hence compelled to pass on to generations of cells which took origin after conception. Here we reach what Roux has designated the post-generative formations. The further we pass away from the time of conception the more numerous examples do we find of alterations in the formation of cells and in the formation of embryonic tissues. But there is at the same time the greater possibility of the alteration having arisen after the formation of the first cells, and hence that the existing cause may have commenced to act at that time. If we set aside this possibility nothing else remains but to assume that from conception, or even from the organs which produced the ovum or the spermatozoon, a predisposition is transmitted which is already present in the earliest cells, even if it cannot be recognized in them.

Upon this theory are built up all interpretations of the inheritance of pathological and, we may add, physiological structures. There are, for example, many extraordinary anomalies in the disposition of hair, either through excess or through defect, and nothing is more common than to see the inherited transmission of such anomalies. But hairs are post-generative structures, and a disturbance in their development can make its first appearance only in a latter period of fetal life; not infrequently, indeed, it is first seen after birth. If such a peculiarity recurs through many generations in the branches of a family or a race it is called hereditary, and referred

to a hereditary predisposition. But as undoubtedly excesses as well as defects in hairiness are brought about by acquired disturbances, such as actual diseases, it becomes necessary to seek a recognizable cause for such great anomalies as well. If such an one is found, the aid of a predisposition need not, as a rule, be invoked; one may be quite contented with the cause, which is then the *causa efficiens*.

Very recent medical history affords the most striking example of a rapid and comprehensive change in opinion regarding a disease formerly regarded as hereditary. Leprosy has for thousands of years passed as a contagious disease. But when about a generation ago the number of lepers in Norway increased to an astounding extent, and one family after another was seized with the malady, the question once more came up as to its hereditariness. Zealous investigators ransacked genealogical tables and church-registers, and families were discovered in which leprosy had persisted for decades, or even centuries. So universal was this conviction that the Government, with the consent of the clergy, wished to promulgate a marriage-forbidding decree; only a small majority in Parliament threw out the proposition. I was then requested by the government to travel through the leprosy districts and to make a report; I succeeded in collecting a certain, though small, number of indubitable cases in which all suspicion of inheritance could be excluded. These were in particular persons who came as healthy adults from quite leprosy-free neighborhoods into the infected districts, and after a long sojourn there developed leprosy.

A few years later Armauer Hansen discovered the leprosy bacillus. Medical opinion changed in a moment. The venerable idea of the contagiousness of the disease was revived. Inheritance was denied and predisposition vanished from the treasure-house of dogmas. I will not assert that the grounds for embracing the present view are absolutely convincing, but I am positive that it is far to be preferred to the dogma of inheritance. And it is an experience instructive to all of us that one single fact, the discovery of a *causa viva* should have sufficed to dash down the apparently best-grounded theory. The safely established recognition of a known cause has at once converted leprosy from an inherited into an acquired disease.

A similar thing happened a few decades earlier with two skin-diseases which were, according to the views of humoral pathology, traceable to a change in the blood, a dyscrasia, namely *tinea* (*favus*,

porrigo) and the itch. The first actually bore the name of *tinea hereditaria*, or in German *erbgrind*. But the microscope revealed to Schönlein that *favus* arises from a mycelial fungus, and as regards scabies the popular Italian view was confirmed, namely that a mite (*Acarus sarcoptes*) was its cause. So unstable are the most plausible theories in the light of an objective, practical knowledge.

Exactly the same experience has been met with in relation to certain diseases of the hair. When fungi were found on the hairs, no one cared any more about predisposition, although this possibly does occur. It is certain that there are parasitic forms of alopecia. But fungi cannot be found in every case of alopecia. Still less is this the case in anomalies of the hair associated with excessive growth. Here no other explanation is possible, except the assumption of a predisposition. This holds equally for hirsute races and for families of hairy men as well as for those single hairy cutaneous patches (*nevus pilosus*) which are regarded as hereditary. The factors in the predisposition are the hair-roots, and moreover those which, although arising during fetal life, belong also to the post-generative group, since they are called later into increased activity.

The general cutaneous covering, in brief the "skin," although doubtless a kind of unitary structure of a generally similar type, is nevertheless in a double sense a socially constituent organ. Not only is it composed of numberless independent cells and cell-territories of dissimilar kinds; apart from the vessels and nerves, of the connective tissue, the cutis proper, and the horny epithelial tissue, which forms also hairs and glands, the individual constituents of the skin have a special disposition and are exposed to various external and internal influences. This is best shown by the numerous morbid states to the definite scientific classification of which English dermatologists so early devoted themselves. The existence of maculæ, papules, pustules, and all the various other kinds of skin-spots is demonstrated by the fact that in the skin a large number of little communities may be noted from the first as independent or hereditary factors of a particular predisposition. When mothers' marks (*nevi*), hairs, or even spines grow from them, it follows that in spite of their common origin there must exist a lasting difference between the various localities.

There is another highly remarkable question which every year claims the attention of medical men more and more; this is what was described in the old medi-

cine as aberratio loci, in the new as heterotopia. It has long been known that hairs are present, not alone on the external skin, to which they properly belong, but also in internal organs where they are quite out of place; and further, that other cutaneous structures, such as epidermis, sebaceous glands, and cutis appear in such places. We unite this whole group under the general term "dermoids." Modern histologists have long struggled against this theory of aberration, but they have finally had to quit the field, and the view has become dominant that as a matter of fact even in fetal life smaller or greater rudimentary fragments can be separated from their natural places of abode, and removed to other spots, where they, so to speak, find a new home, and can undergo all the further changes which are dependent on their cutaneous nature. It is thus that cysts and other tumors can arise from them.

The most remarkable examples of such heterotopias are afforded by certain glandular organs which under normal conditions present communities of similar parts, arranged in special divisions. Among them a high place is taken by two organs which have recently demanded much attention, the thyroid and the suprarenal glands. On their surface may often be observed the pushing forward and progressive isolation of separate parts in the form of nodules or small lobes. But occasionally these nodules pass completely out of association with the main body of the gland, and are found disconnected in a perfectly strange place more or less removed from their seat of origin. The farthest journeys are those of the broken-off nodules of the suprarenals; their wanderings lead them to neighboring spots on the kidneys, or even into the interior of those organs, and in other cases over the kidneys into deeper parts of the peritoneum as far as the pelvis. And at all these places they may undergo further change, thus affording starting points for tumor-formation.

The same wandering has long been known in respect of teeth, and one knows that large tumors can arise from misplaced tooth-germs. The like holds with regard to cartilages, in which similar separations are noted in fetal life. The history of rickets has shown that islands of cartilage which were originally connected with the primary cartilages of the epiphyses or diaphyses come later in the course of bone-growth to lie in the interior of the bones, completely separated from their matrix. From them may arise other new formations such as enchondromata and osseous cysts.

Extraordinary, even astonishing, as many of these cases are, they lose the character of perfect strangeness which they exhibit on superficial examination when we recall a frequent heterotopia which was produced at first rather by accident, then in surgical practice, and finally experimentally, and which is known by the name of transplantation. Since the grafting of pieces of the epidermis has come into use in rhinoplasty, and has been applied, often with great success, to the healing of refractory ulcers, it is no longer surprising to think that living pieces of tissue may continue to exist in unwonted situations, and can there undergo further development. Experimentally—and this has also become important in surgical practice—the first place under this head is taken by the transplantation of periosteum, which can be carried into every possible corner of the body, even through the circulation into the lungs, and which in all these places conserves its vitality and also its power of serving as a matrix for osseous tissue.

In my opinion, the bearing of these observations upon medical theory has been overrated, in that a property possessed by the transplanted tissue, to wit, the property of forming a tumor by proliferation, has been applied to the explanation of tumor-formation in general. This is a mistake. Transplanted tissue has no fresh properties beyond those of the mother tissue from which it is separated.

That a sarcoma can arise from a nevus is only possible because the latter is a part of the skin, and because the skin itself can also produce sarcomata. A cartilaginous tumor can arise from an aberrant piece of cartilage in the middle of a bone, and give rise to an enchondroma, but it may also grow out as a simple cartilaginous hypertrophy (ecchondrosis) from permanent cartilage. A dermoid cyst can serve as the basis for the outgrowth of a cutaneous horn, but cutaneous horns and spines can also grow out of ordinary skin. In each of these cases there is only the realization of a possibility of formation which is present in the matrix in general. At the same time each of these cases illustrates the law of the *vita propria* of the tissues and of their activity linked to this life.

It is not without great scientific and practical interest to reflect that these observations illustrate another ancient doctrine, the doctrine of parasitism. This doctrine also is traceable back to Paracelsus, who wished to have disease in general regarded as a parasite. One century after another spread this theory abroad, or at least kept its memory green, although there

is a fundamental error of logic in assuming the universality of parasitism. For if the living organism is constituted by separate and independent living parts, each of which nourishes itself, and of which most can propagate themselves and perform their special functions, each one of these individual parts must occupy the position of a parasite with respect to the others: it lives on and lessens the common stock of nourishment. The generally accepted view regarding parasitism postulates at the same time the harmfulness of this condition. In reality, every part is endowed with individual life so that it can act prejudicially on the remainder of the organism if its activity becomes excessive or defective. A nevus that becomes a sarcoma can assume a really hurtful significance. Hence it is requisite to remove the sarcoma, but it is not advisable to remove every nevus. Only an access of caution can lead to an operation which finds its sole excuse in the possibility that nevus can conduce to the formation of a sarcoma. In like manner every excessive proliferation (luxuriantion) can act harmfully; it may then be described as malignant. But many proliferations are useful, benign or even salutary, as, for instance, the scars which cover a loss of substance. It is just for the sake of a trustworthy prognosis that one must be extremely careful in the application of designations which group whole categories of morbid processes under a common aspect.

The idea of parasitism which we have here discussed in regard to the relation between different parts of the same organism fits in much better where living organisms of a different variety or species enter into an organized corporation, and continue their special life in commensalism. The animal parasites, which exist as entozoa in man and other animals, have been longest known. Since the end of the last century our acquaintance with these entozoa has greatly broadened. Many structures which were formerly regarded as mere bladders (cysts) have been recognized as cestoid worms (entozoa cystica). The trichinæ, apparently sexless animals living in the interior of muscles, were first discovered in this century at Edinburgh; later experimental research succeeded in proving that after the consumption of infected meat these little worms rapidly became sexually ripe in the bowel, and produced not alone ova, but also living embryos and larvæ. Thus one comes to the worms which live in the blood, distomata and filariæ, and which later wander into the tissues. They all have a period during which they have their dwelling as organo-

zoa in the midst of the living tissues of the organism, and become so perfectly incorporated that they carry on their own lives just like the proper cells. Quite new and pertaining exclusively to the investigations of our own time are the parasitic protozoa, beings of so rudimentary a kind that their position in the biological system is even yet not quite clear. Chief among these are the protozoa of malaria, quite microscopical organisms, many of which are such pigmies that they can penetrate into the smallest cells, such as the red blood-corpuscles. The darkness which for thousands of years had enveloped a group of most dangerous diseases—the tropical fevers—has been dispelled by the discovery of these tiny creatures. Important links in the history of these parasites are still wanting; we know nothing definite as to their origin or their career outside the great organisms which are their temporary dwelling-place, and nothing, also, as to their mode of action within these organisms, but we hold the threads by means of which perfect knowledge must be attained.

Lastly comes the equally new field of microscopical plants which appear sometimes as mere grains (cocci), at others as minute rods or chains (bacilli), and from which many of the most severe diseases, the élite of the parasitic infectious maladies, take origin. Their recognition began with the study of two very great and most widely spread processes, fermentation and putrefaction. It will ever remain the imperishable merit of Pasteur, not only to have firmly established the dependence of these processes on the activity of microbes, but to have elucidated the further life-history of the germs and their power of producing active chemical or physico-chemical substances. Here for the first time were subjected to experiment parasitic beings which live and carry on their work outside the organism. Hence has been attained the wonderful result which has unlocked new methods both in medicine and in technical science. Above all, the results of microscopical research have been supported by trustworthy experiments, and their significance raised above all doubts; hence pathology in particular has won in directions which had hitherto been shunned by all who studied the nature of its processes, a clearness and certainty which has been reached in few other fields.

The first great stride in the special domain of pathology was made in veterinary medicine. The discovery by Brauell of the anthrax bacillus opened the long series of new, and as we now call them, pathogenic bacilli. It would lead too far afield to re-

fer to all of these, or even to enumerate them; it must suffice to mention the two severest diseases, the dreadful effects of which are accounted for by the action of bacilli—tuberculosis and Asiatic cholera. In both cases it was Robert Koch who was fortunate enough, by means of careful, and in part very delicate procedures, to demonstrate the constant presence of certain bacilli in the organs of patients. At the same time it became plain that in spite of the presence of bacilli in both diseases a totally different kind of infection could be recognized in the two; thus, while tubercle bacilli invade the organs, and therein exhibit their deadly action, the cholera bacillus remains almost exclusively in the intestine, and develops more after the manner of an infusorial plant.

For our discussion to-day it is inadvisable to go into minuter details. Only a few of the greater landmarks can be referred to. One of them I will mention but briefly, as I have written many long papers upon it: the necessity for distinguishing between the cause and the essential nature of infectious diseases. Parasitic beings, including, of course, bacteria, are never more than causes; the nature of the disease depends upon the behavior of the organs or tissues with which the bacteria or their metabolic products meet. From my point of view this distinction is of cardinal importance.

Both my other landmarks require somewhat fuller statement. The first is the general relation of the smaller parasites to the diseases determined by them. Under one name, which reaches back even into the old days of humoral pathology, and which I was the first to introduce into common parlance, are grouped all the processes which are produced by the invasion of morbid substances, under the general designation of infection. The Latin *infectio* means as one should say to "dirty." The polluting substance (*res inficiens*) has been called for ages dirt, *impuritas*. The products of putrefaction (*materiæ putridæ*) served as its prototype. In Greek they were called miasms (from *μιασμα*, *infectio*), so that these latter names were applied chiefly to such uncleanness as had been produced outside the body. That which had arisen inside the human or animal body was called contagium. Both miasmatic and contagious substances produced by their penetration into the body severe attacks recalling poisoning. To distinguish such a substance from a true poison (*venenum*) it was designated a virus. The relationship between infection and intoxication was presumed, but it was not with-

out good reason, considering the origin of the impurity, that the difference in designation was retained.

Among the innumerable infectious diseases it was the contagions which, owing to the associated danger to health and life not for individuals only, but for numbers of men and animals, came most prominently to the front. Thus the remarkable property was observed in contagia that they multiplied in the body, and so besides infection as such produced an immeasurable quantity of fresh virulent substance. In this respect they approached living beings, and the thought arose that they themselves were alive (*contagia viva*). With the discovery of parasitic animals and plants this conjecture soon became a fact. Nothing was easier than to generalize this fact and to assume the presence of independent organisms in each contagious disease. The younger generation of doctors and students disregarded with fiery enthusiasm the necessity of a practical proof, and was filled with the conviction that all infection depended on the invasion of parasitic organisms. And since it was just the severest infections which were produced by the minutest plants and in which bacilli and cocci, or as they are called for short, bacteria, were found in greatest abundance there was circulated for some time that beatific axiom, "Infection is pollution by bacteria."

It was known, however, that parasitic animals and protozoa can also give rise to infection, and that between bacteria and fungi there is more than a slight difference, but for convenience the name of bacteria is retained as a general designation. Further, a peculiar circumstance happened in that for most of the so-called bacteria there were no botanical names. Owing to the novelty of the circumstances in which they are placed, botanists have not even yet succeeded in their customary duty of giving every new plant its special name, of determining its genus and species, and of assigning it to its proper systematic situation. This can easily be understood and forgiven. But it does not in any way alter the erroneousness of a method which attributes every impurity to bacteria on the sole ground of its contagiousness. It may be said that a contagious disease affords suspicions of a bacterial origin, but it should not be called simply bacterial. To do so hinders further research and lulls the conscience to sleep.

Some of the most important contagious diseases have succeeded in resisting the struggle to find in them a parasitic contagium. For example, many have been

the sanguine hopes of finding the parasite of venereal disease and as many have been the failures. The coccus of gonorrhea alone has been discovered; the bacterium of syphilis itself remains a *pium desiderium*. With certainty was it expected that a pathological parasite would be tracked in variola; more than one bacterium was actually found, but none pathogenic. In hydrophobia (lyssa, rabies) all appearances seemed to promise that it would prove to be a microparasitic disease; its contagiousness is undoubted; even a vaccine has, as with smallpox, been prepared, and yet no one has been able to cultivate a specific bacillus. And the same is the case with some of the most dreaded contagious diseases. Painful as it may be one can do nothing but wait, observe, and experiment. Perhaps pathogenic bacteria will be found, but as long as they are not discovered all assumption is useless if not dangerous. To have learnt this is a good omen for a mighty stride in biological methods.

The other, much-further-elaborated point in the study of infectious diseases is the question of the mode of action of infection. As long as infection by animal parasites was regarded as the type of infection in general, the destructive action was described as the result of a mechanical action just comparable to a bite or devouring. But the exact study of the larger entozoa and organozoa soon brought about a complete conversion. Neither the *Tænia solium* nor the *Tænia echinococcus* possesses an oral opening. They undoubtedly take in nourishment and draw it from their autosites, or, as they are poetically called, their hosts, but this applies only to the absorption of fluids. The feeding of bacteria and other vegetable and plant-like parasites has to be regarded in the same way. They certainly injure the tissues and organs in which they reside by the consumption of important materials, but their action is not limited to this. This much we have already learnt in the study of fermentation and putrefaction. It is admitted that organic matter is destroyed by them, but in addition they produce new substances, some of them eminently poisonous. Thus, it has been known for centuries that alcohol is produced by fermentation. The putrefaction-poisons could for a long time not be isolated; first Selmi and then Brieger achieved this result. Gradually one ptomaine after the other was found; for the whole group the new term of toxins has been introduced by Brieger instead of the name virus. They are in part crystallizable, invariably diffusible, chemical substances which are bound up neither

with cells nor other formed elements, though they are produced by the cell-action of the parasites. They are nowadays described by preference as metabolic products, a perfectly platitudinous notion which has far more sound than sense. In former times people were contented to call them secretory products, and I venture to believe that it is better to stand by this term in order not to lose the analogy with glandular secretion.

There are thus two sides to infection; on the one the actual living parasites, on the other their often poisonous secretions. In the individual diseases now one, now the other property comes to the front. In the case of the hematobiotic parasites poisoning may well as a rule count as more important; with those that live in the organs the deprivation of nutriment is much more immediately evident. The invention of artificial nutritive media for bacteria has now provided us with a convenient field for research and observation regarding all these questions.

It would be called carrying coals to Newcastle were I to sketch in London the beneficial effects which the application of methods of cleanliness has exercised upon surgical practice. In the city wherein the man still lives and works who by devising this treatment has introduced the greatest and most beneficent reform that the practical branches of medical science have ever known, every one is aware that Lord Lister, on the strength of his original reasoning, arrived at practical results which the new theory of fermentative and septic processes fully confirmed. Before any one had succeeded in demonstrating by exact methods the microbes which are active in various diseases, or in establishing the special functions that they perform, Lister had learnt in a truly prophetic revelation the means by which protection against the action of putrefactive organisms can be attained. The opening up of further regions of clinical medicine to the knife of the surgeon, and a perfect revolution in the basis of therapeutics, have been the consequence. Lord Lister, whom I am proud to be able to greet as an old friend, is already and always will be reckoned amongst the greatest benefactors of the human race. May he be long spared to remain at the head of the movement which he called into existence.

It remains for me to say a word concerning the other great problem, the solution of which the whole world is awaiting with anxious impatience. I refer to the problem of immunity and its practical corollary, artificial immunization. It has

already happened once that an Englishman has succeeded in applying this to the nearly complete destruction of at least one of the most deadly infectious diseases. Jenner's noble discovery has stood its trial as successfully, except in the popular fancy, as he hoped. Vaccine is in all hands, vaccination is, with the aid of governments, spreading continually. In the same direction Pasteur worked resolutely, even with boldness; he introduced into practice the vaccines of chicken-cholera, anthrax, and rabies. Others have followed him, and the new doctrine of antitoxins is continually acquiring more adherents. But it has not yet emerged from the conflict of opinions. Still less is the secret of immunity itself revealed. Even if everything points to the view that immunity is based on the condition of the cells and the juices of their parenchyma, and not on the serum or the humors—these being probably only the means of transport for the immunizing as for the infecting fluids—we must still become well accustomed to the thought that only the next century can bring perfect light and certainty on those points. The homeopathic notion that toxin and antitoxin are one and the same, seems so foreign to our biological ideas that very many experimental and practical proofs will be required before it can be admitted into the creed of the future. Before then we must at least have succeeded in finding a way of strengthening the cells in their fight with bacteria by means of immunity.

Let us, in conclusion, turn once more to the special cells which build up the body, and which arise from proliferation within the body. These exhibit numerous analogies with microbes. They also are independent living beings, or, as Brücke said, elemental organisms implanted in the social structure of the body. They can be removed, transplanted, and grafted in a new situation. If they increase, and thus form a tumor, this can produce metastases by transplantation. But the process as such is always bound up with a certain number of living elements, is always cellular in character. It is not the flowing blood which makes a tumor or a cell; it is the mother cells, from which all new formation originates.

From this consideration I have for decades drawn the conclusion that the local action of the cells, bound up as it is with certain matricial parts, dominates pathological laws, and must also determine the practice of physicians and surgeons. Cellular pathology demands above all treatment attacking the effected parts themselves, be this treatment medical or surgical. It is

with great joy that I see this deduction ever becoming more widely generalized, be it with more or with less conscious knowledge. Hence follows in surgery the recommendation of early operation or destruction of the focus of disease.

But cells also, just as bacteria, exercise chemical influences. Apart from the destruction which they effect by absorption, they secrete chemical substances. These appear first as tissue-fluids, passing later into the circulation. Thus arises a change in the composition of the flowing juices, particularly of the blood, in fact a dyscrasia. This is, as I have always explained, a secondary dyscrasia, quite distinct from the primary dyscrasias of the humoral pathologists, by localization of which topical disease, and particularly tumors, were supposed to arise. According to my view, each dyscrasia is determined by the taking in of products of tissue-secretion which may now be called metabolic products, or according to the old dictum, recrementitious substances. The tissue-juice, and the excreted material which is returned into the body have of late years gained much esteem. The semen, which I myself have always indicated as the classical example of such a tissue-juice, and exhibited as the prototype of secretion by tumors and organ-cells, has provided *materia medica* with spermin, as has the thyroid juice with thyroïdin and thyroïodin. New substances, some resembling alkaloids, others albuminates, are isolated from various organs, experimentally tested, and technically worked up. So arose injection or serum-therapeutics, on the results of which we are not yet in a position to pass a final judgment, though every one who is sufficiently unprejudiced must admit that they have in many cases been good. Experience will determine the value of these methods; you must learn by the aid of practice to deduce the lasting theoretical truths. But never forget that the source of all these substances and secretions is the cell-activity of living tissue, and that its therapeutical or pathological action on the individual organs or tissues can thus accomplish no aim beyond that of exercising a regulatory influence on cell-activity. May the medical school of Charing Cross Hospital continue upon the newly opened path with zeal and good fortune. But may its students at the same time never forget that neither the physician nor the naturalist dares dispense with a cool head and a calm spirit, with practical observation and critical judgment.

¹ Croonian Lecture. *Proc. Roy. Soc.* Vol. LIII. ² Morgagni and Anatomical Thought. ³ Published in the "Basilian-Festschrift," Berlin, 1896, pp. 33-38.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
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Treatment of Bronchiectasis

Dr. Quincke (*Berl. klin. Woch.*, No. 24, p. 525, 1898) suggests that patients with bronchiectasis and chronic bronchitis, accompanied with abundant purulent expectoration, should lie down flat in bed for two hours every morning, or still better, with the foot of the bed raised. This facilitates expectoration very much, and also gradually diminishes it. In diffuse acute bronchitis and in pus-cavities this method is contraindicated.

A Little-noticed Symptom of Acute Rheumatism

Dr. F. Steiner (*Deutsches Archiv. f. klin. Med.*, 58, p. 237) notes what appears to him to be a symptom of acute articular rheumatism little commented upon, namely a sharp pain in some nerve-trunk, or region supplied by the arborizations of a single nerve. This affection of the nerve-trunk usually runs along parallel to the rheumatism, at times, however, it is little noted, yet at others it becomes more noticeable. The author believes it to be a sort of metastatic perineuritis set up by the same agents which have produced the rheumatism. J.

The Universal Applicability of the Open-air Treatment of Phthisis

Tuberculous patients can be suitably treated not far from their own homes, states Dr. R. W. Philip (*Brit. Med. Jour.*, July 23, 1898); the one essential factor is free exposure to open air. Indoor workers, soldiers in barracks, and (among animals) cows comfortably housed are the most numerous victims of the disease; out-door workers, soldiers in the field, and animals exposed to all weathers and breeding in the open are comparatively exempt. The author details the method of treatment at the Victoria Hospital for Consumption at Edinburgh, of which the following are conspicuous features: Heating is by open fireplaces. Each room has at least one large window, which is constantly open, day and night, and in all weathers. There is a constant current of fresh air. Thermometers placed in each room and in every passage-way are watched from hour to hour, and a uniform temperature of 60° F. is demanded.

There is the simplest possible furniture, the floors are plain and polished, and the walls are covered with distemper, which is renewed from time to time; all things are ordered in the simplest possible manner. Fresh air and sunlight into the rooms, out-of-door life, graduated exercise, warm but light clothing, bathing, five meals a day, and cod-liver oil; these are essentials of the treatment. The author advocates the establishment of an anti-tuberculosis organization among both medical and laymen for the purpose of realizing the following objects: (1) The selection of a committee of citizens who are sufficiently alive to the necessity of taking action concerning the disease; (2) the institution of a central out-door department in the heart of the larger towns with the double object of treatment and education; (3) the erection of a hospital whose basis of treatment should be the features above presented; (4) the establishment of a "tuberculous colony" where poor patients might for long periods and under hygienic conditions maintain themselves honorably; (5) that there be provided special asylums for admitting dying cases, and (6) that wisely conceived preventive measures be adopted by every community.

G.

The Effect of Exercise on the Hemoglobin

Dr. W. Edgecomb (*Brit. Med. Jour.*, June 25, 1898) concludes:

1. There is by day a normal fall and by night a rise in the worth of the corpuscle, representing a daily destruction and regeneration of hemoglobin.
2. Active exercise increases the extent of the fall by day and the rise by night.
3. Active exercise stimulates a slight overproduction of hemoglobin.
4. Passive exercise (massage) diminishes the volume of the blood, but has no effect in diminishing or increasing the amount of hemoglobin.
5. Rest reduces the extent of the day-fall in worth, representing a diminished destruction of hemoglobin.

S.

Treatment of Lead-colic by Subcutaneous Injections of Artificial Serum

Rev. de Thérap. méd.-chirurg. (No. 14, 1898, p. 479) gives communication from A. Deléarde to the Society of Biology made July 2, 1898.

Referring to the well-known difficulty of provoking action of the bowels in lead-colic, the most energetic purgatives being ineffectual even on repetition, and violent cramps continuing meanwhile with vomiting and anorexia, he found that artificial

serum acted rapidly and constantly in producing intestinal flow and disappearance of pains within a brief period after its injection. Desplats, before him, had obtained good results in a case of brain-complication with lead-poisoning by first bleeding and then using a hypodermic injection of natural serum.

In nine cases of lead-poisoning with classic symptoms of lead-colic the artificial serum suppressed all pain in from five to six hours after its injection and brought on a diarrhea the following day. This loosening of the bowels lasted two or three days with an average of three movements in twenty-four hours without other medication. The general condition was very rapidly improved; appetite returned and vomiting ceased. It is noteworthy that the urine is not increased as usual after such injections of artificial serum, the force thereof seeming to be spent on the intestines in these cases—a result which is here very favorable.

Five hundred cc. (about a pint) of Hayem's serum were injected under the skin of the abdomen. Only in one case was this administered a second time after an interval of two days. The serum has no action on lead-paralyses. It only suppresses the muscular pains and constipation, the symptoms due to them, vomiting and headache. The process has invariably been successful. H.

Reduplication of Sounds

Reduplication of the first sound is, according to Dr. Sewell (*Amer. Jour. Med. Sci.*, July, 1898), a frequent phenomenon, especially in pathological conditions; it may have every degree of completeness from mere prolongation to distinct doubling of the first sound. The condition is most marked at the end of expiration. These reduplications may be grouped under two heads: (1) as real (2) as simulated. Under the first division fall those reduplications of the first sound due to a synchronism in the contraction of the ventricles. There is also reason for the suspicion that reduplication may have its origin in a double systolic effort of ventricles. Simulated reduplication of the first sound is probably frequently caused by undue lack of synchronism between the contraction of the ventricle and the tension-sound of the corresponding auriculo-ventricular valve. Simulated reduplication may also arise from a post-systolic blow of the pulmonary artery against the chest-wall, or to audibility of the auricular contraction.

The prominent factor in causing real re-

duplication of the first sound is intra-ventricular and extraventricular blood-pressure. As a rule, that ventricle contracts first within which the diastolic blood-pressure is relatively increased. When reduplication of the first sound is perceived in normal subjects it often indicates a lack of cardiac co-ordination, which provokes special symptoms referable to the circulation, e. g., a tendency to faint. True reduplication of the second sound of the heart is produced by asynchronous tension of the two sets of sigmoid valves. The phenomenon is a normal one, the aortic valve-sound preceding the pulmonary at the end of inspiration and beginning of expiration. This splitting of the second sound may be wholly absent or only perceptible at about the end of inspiration or reduplication may be represented by a double sound throughout the respiratory cycle.

The wildest reduplication of the second sound takes place when the ventricles are asynchronous in action. When the right ventricle slightly precedes the left the second sound is single and, conversely, when the second sound is single the contraction of the ventricle is usually asynchronous.

When the first sound is single the character of the second sound as regards reduplication depends on the ratio of pulmonic to systemic blood-pressure. The greater the difference between these pressures, the more marked the reduplication. Therefore, when the lung-vessels are congested, or resistance to outflow from them is increased, reduplication of the second sound is diminished or absent. True reduplication of the second sound is heard most plainly at the base of the heart, under the second and third left costal cartilage bordering on the sternum.

The position of the body, and especially respiratory movement, influence reduplication of the second sound in so far as they influence the ratio of pulmonic to systemic arterial pressure. There is reason to believe that the maximum difference between aortic and pulmonary arterial pressure is rhythmically reached at the end of inspiration and beginning of expiration, i. e., in the phase of respiration in which the splitting of the second sound is most marked. S.

Intussusception in Children

Dr. Edward Martin says that from a study of infantile intussusception the following conclusions seem justifiable (*Therap. Gaz.*, p. 366, 1898):

1. The affection is a rare one in any one locality or in any individual experience.

The general impression among medical men to the effect that it is common has not the support of either hospital-records, vital statistics, or personal inquiry.

2. Gastro-enteritis is a distinct predisposing factor.

3. The diagnosis of infantile intussusception from severe entero-colitis in the absence of tumor may be quite impossible. Fortunately tumor is present in over 80 per cent. of cases. Often it has not been found because search has not been made for it. Sudden and violent onset, frequent small blood-stained mucous passages, and the rapid minimizing of the quantity of feces passed, would suggest intussusception. Under such circumstances palpation should be practised, one finger being passed into the rectum, the other fingers of the other hand being applied to the abdominal surface. When there is reasonable doubt the child should be relaxed by ether before such examination is made. The tumor is necessarily on the left side, being found in a small percentage of cases to the right.

4. The first attempt at reduction should be thorough and final. This is most likely to be successful if practised upon the thoroughly anesthetized child. The method of choice is the slow injection of normal saline solution by gravity at a temperature of about 102° F., and under a pressure of at first four feet—not greater than eight feet after ten to fifteen minutes. Inversion and gentle massage aid in accomplishing reduction.

5. Reduction by injection should not be attempted in hyperacute cases which have lasted more than twenty-four hours, nor in acute cases which have lasted twice this time. Immediate operation is safer for such cases.

6. Reduction by injection having failed, there should be immediate recourse to celiotomy and direct disinvagination, or if this procedure is impossible, ligation and resection of the adherent and sloughing mass practised through a small incision through the intussusciens, and union of the divided bowel as in the Maunsell method. The portion of the gut cut away may be delivered through the anus. R.

Intestinal Worms Causing Symptoms of Meningitis

Dr. Duchesne reports a case of a boy 13 (*Jour. de Méd. et de Chir. Prat.*, 24, VI, 1898), who for several days presented all the clinical signs and symptoms of tuberculous meningitis. The boy then passed seven worms and all the symptoms disappeared instantly, as if by magic. The au-

thor therefore cautions against a too hurried diagnosis of meningitis, but justly adds, on the other hand, that the passing of worms by a patient with meningeal symptoms can not be taken as positive proof that they—the worms—are the whole cause of those symptoms. He had another patient, a boy of 7, who also presented all the symptoms of tuberculous meningitis. An emetic was given, then calomel and santonin, which brought out several worms. Nevertheless the child's condition continued to grow worse, the meningitis took its regular course and the child died. R.

The Etiology of Syphilis

Dr. Van Niessen, of Wiesbaden (*Centralb. f. Bact. Paras. u. Inf.*, Vol XXIII, No. 2-7, 1898), concludes:

1. Syphilis is a chronic infectious disease of the blood, the contagium reaching the blood from without and being carried to the other tissues by means of the lymphatics.

2. The contagium of syphilis may be demonstrated microscopically in every case and every stage of the disease. In many cases it may be found in the urine, milk, semen, sputum, sweat, etc.

3. The syphilitic virus is a pleomorphic form of bacillus which stands in close relation to the higher organized fungi such as the actinomycetous *Dermatium* and *Cladosporium*.

4. In all its stages syphilis is inheritable and communicable. This applies also to rabbits, which are susceptible to syphilitic infection experimentally.

5. With the therapeutic means at our command syphilis is absolutely incurable. Relative healing merely denotes a latency of the disease. It is, therefore, of the greatest importance to mankind that positive cure be discovered. S.

The Repression of Consumption

Wm. Robinson (*Brit. Med. Jour.*, July 23, 1898) puts preventive measures under two heads: (1) Those belonging to the realm of general sanitation which improve the dwelling, the workshop, and the bodily conditions of the people generally. (2) The destruction of sputum and the removal of the phthisical (in the late stages) to a home for consumptives. Notification should be in force, though the sanitary officer must never come between the physician and the patient. In the open air, the patient is practically harmless, the bacilli being destroyed by sunlight and fresh air. After a room has been vacated by a consumptive it should be thoroughly cleansed, disinfected,

and papered by the authorities. Leaflets stating plainly the nature of the disease, its mode of spreading, and simple directions to prevent its spread, should be distributed freely. Spittoons should be placed in all public places. There should be systematic inspection of meat and destruction of tuberculous meat; careful regulation of cubic space, light, and ventilation in all cow-byres; the testing of milch-cows by tuberculin. The sources of all milk brought into town should be under supervision. The writer praises the system in vogue in New York city. As to treatment: The disease is curable. A warm dry soil, pure uncontaminated fresh air, sufficient fine weather and adequate protection from wind and rain are ideal conditions for the treatment of this disease, neither heat, cold, rain, wind, nor mist need deter a patient from being out of doors all day long. Patients can be carried out on stretchers if feeble or feverish, and kept lying down and well wrapped up. Abundant nutritious food, careful nursing and hygienic conditions are essentials. The open-air method cures (1) by the tonic influence of fresh air; (2) by preventing the patient from reinhaling his own tuberculous dust, and (3) by the bactericidal action of sunlight and ozone.

G.

A New Sign of Death

Bourgade (*Comptes rend. de la soc. de biologie*, IV, 23, 1898) recommends the employment of the Röntgen ray apparatus in order to determine the actuality of death in difficult cases. Skiagraphs being taken of the chest show in the event of death a clear, sharp, and distinct outline of the heart, but if the heart moves at all, as if beating, the outline is blurred and indistinct. This same phenomenon is to be noted with reference to the contour of the ribs and of the diaphragmatic insertions.

J.

Morphology of Leukemic Blood

An imperfect knowledge of the origin of the leucocytes is the greatest obstacle in the study of leukemia, according to G. Dock, Ann Arbor (*Univ. Med. Mag.*, vol. X, No. 6, p. 329). When the blood is examined minutely in leukemia, in a large series of cases striking differences are found, and it is reasonable to suppose that these differences in the blood are associated with differences in the anatomical changes in the organs, not, as was originally supposed, as regards seat only, but as regards the histological alterations. In chronic leukemia the conclusions of a large number of observers coincide in the view that

the most striking characteristic of the blood is the polymorphism of the cells, especially the leucocytes. Along with cells which differ from ordinary leucocytes only in size, are found cells such as are normally found only in bone-marrow, eosinophile cells, sometimes very large or very small, and with simple round or oval nuclei; cells of similar size and shape, but with neutrophile granules in the protoplasm, also nucleated red-blood corpuscles, when such blood is allowed to stand for a short time Charcot's crystals form, or they may appear in blood dried at once after leaving the body, as described by Westphal.

The writer calls attention to a case of chronic leukemia with an increase of only small mononuclear cells in the blood, in which the period of time during which the blood was examined and the opportunity for examining the tissues post mortem seem to furnish important data for the study of leukemia. From his observations it seems rational to consider all the lymphoid tissues as possible sources of the small cells, not only the hyperplastic tissue in the lymph-glands and spleen, but also the tissue in the bone-marrow, which may be considered a heteroplastic lymphoid tissue, comparable to a metastatic process in tumor-formation. The case referred to proves the claim of Neuman, that the peculiarities of leukemic blood depend on the kind rather than on the seat of the anatomical alterations. It seems to prove, also, that the excess-cells in leukemic blood may be derived from any tissue in which such cells are formed, provided means are present for entering the circulation. In conclusion the writer declares it must be admitted that a polymorphism of the leucocytes is by no means essential as a criterion of leukemic disease, but that there may be instead a preponderance of one particular kind of cell. Although this may conveniently be termed a leucocyte, it is necessary in reporting cases to go beyond that term, and give accurate descriptions of size, form, and tinctorial peculiarities.

Pathological Formation of Blood-vessels

Sem. méd. (No. 37, p. 303) takes from *Nederl. Tydschr. voor Gen.*, April 9, 1898, the following views of M. Straub:

We know that in pannus from ulcer of the cornea the blood-vessels extend to the affected point, of which the utility lies in thus enabling the affected tissue to increase its resistance and hasten repair of the lesion. The question is, by what force are the vascular loops thus propagated? The author thinks this force is a chemical ac-

tion, certain chemical substances arising de novo from the altered tissues and acting as stimulants to the capillary tissues so as to produce this defensive sprouting of vessels which he would call vasochemiotactic. Vasochemiotactic substances could arise from normal tissues and especially embryonic tissues, as well as from altered tissues. At present it would be difficult to demonstrate the existence of these substances: but the theory finds support in the number of facts of normal and pathological vascularization with which we are acquainted, and which are best explained on such a theory.

H.

Cysticercus Cellulosæ in the Human Brain

In the *Rivista sperimentali di freniatria* (Vol. XXIII, p. 611) Dr. Gianni reports the history of a neuropathic man who had convulsions in his childhood, which ceased for a time and then at periods of a few months reappeared. These convulsions were not preceded by any aura, and commenced usually in the right side of the face, from which they spread gradually over the whole body, though throughout the right side was more affected.

These convulsions were of a general clonic character, and were usually accompanied with urination, foaming at the mouth, biting at the tongue and death occurred during one of them. Autopsy revealed the presence of numerous well-marked cysts of the *Cysticercus cellulosæ* limited to the cortex. The author considers the questions of the cortical origin of epilepsy and of hallucinations.

J.

Intravenous Infusion in a Case of Uremia

B. Metzger (*Bost. Med. and Surg. Journ.*, Vol. CXXXVIII, No. 21, p. 491) reports the following case, which seems a marked advance in the treatment of uremia. A patient, aged 6 years, entered the hospital because of an attack of what was thought appendicitis. This subsided, but ten days later he was taken ill with lobar pneumonia. After recovery from the latter he was treated for probable Pott's disease with iliac abscess. There was a mass in the right iliac fossa, not tender; some stiffness of lumbar spine and spasm of lumbar muscles; no kyphosis. A diagnosis of appendicitis was made, which was confirmed by operation, the remnants of an old appendix being found, pus adherent, etc. As the appendix could not be removed, the abscess-cavity was thoroughly drained. Three weeks after he complained of severe abdominal pain, and some hours later of lumbar pain. He at this time passed a few cc. of bloody

urine, in which when examined were found an occasional hyaline and granular cast. He vomited several times at this juncture, and later on every ten minutes, night and day. This could not be checked. Patient steadily lost ground, becoming delirious and restless. Temperature was 103 degrees, pulse weak. Deep coma followed, limbs lax, respiration somewhat irregular. As a last resort, the right median basilic vein was opened and about ten ounces of blood allowed to escape. Twenty ounces of normal salt-solution were then put into the same vein. In an hour the boy was conscious and rational. Nine hours afterward the patient passed 100 cc. of urine, and in the next five hours 670 cc. The next day he passed 1730 cc., and the next 2240 cc. His condition showed an immediate improvement, his mind being clear, color and pulse good, and vomiting having ceased. Subsequently, infusions of salt-solutions were given under the skin of the capillary folds, but without any apparent effect. A faithful trial was given ordinary therapeutic measures, such as hot packs, digitalis, squills, etc. The condition of the urine steadily improved, it being negative two weeks later. Convalescence also was uninterrupted. The case is reported by the writer as being of interest in regard to venesection and infusions of salt-solutions in certain cases of uremia where other therapeutic measures had been used without avail.

The Morbid Anatomy of Epilepsy: a Summary of Certain Studies

A. P. Ohlmacher (*Clev. Med. Gaz.*, Vol. XIII, No. 8, p. 466) records a peculiar series of anatomical alterations encountered in eight cases out of eighteen upon which autopsy was performed, with the object of founding a morbid anatomical basis as regards epilepsy. The eighteen cases which came to autopsy represented various types of epilepsy, as idiopathic grand mal, irritative or Jacksonian epilepsy, the epilepsy of dementia, of idiocy, and imbecility. Various lesions were found in these cases, some of which were extremely interesting, and the inconstancy of the gross pathology in the cases of secondary epilepsy of dementia, imbecility, and idiocy, and of the Jacksonian type seemed to be precisely what would be expected from the clinical manifestations. In the eight cases referred to, the gross pathological findings, especially emphasized, are summarized as follows: A persistent and enlarged thymus-gland; a pronounced enlargement of the intestinal and splenic lymph-follicles; a more or less pronounced hypertrophy of the lymphatic glands, and the lymphade-

noid follicles of the tongue, larynx, trachea, esophagus, tonsils, and even of the stomach; a narrowing of the arteries; an abundant development of fat; and certain osseous changes indicative of old rickets. The persistent thymus, with one or more accessory features added, was constant in each case. All of the patients except one suffered with epilepsy from childhood; and in at least six of the cases, the clinical histories were those of idiopathic grand mal. Four of them had periodic mania; two of the women and one man were found dead in bed after having retired in apparent good health. In the opinion of the writer, thymic sudden death in adults, and thymic asthma or laryngismus stridulus and its sudden fatalities in infancy, are conditions of extreme interest, and quite as mysterious in their causation as epilepsy. The morbid anatomical conditions found in the eight epileptics referred to make a picture of what the German pathologists style the lymphatic constitution. To account for these singular anomalies in their relation to the malady known clinically as idiopathic epilepsy, is at present as yet a purely speculative task. When a firmly established morbid anatomical basis is founded and fully developed, the time for experiments along certain lines suggested by the morbid anatomy will have come.

The Brain of Pigeons and Immunity

E. S. London, of St. Petersburg, gives the results (*Centralblatt f. allgemeine Pathol. u. path. Anat.*, 1898, No. 6-7) of a unique series of experiments on immunity following the removal of one or both hemispheres of the brain of the pigeon. As a result of this operation the animals lose their immunity to tetanus and die after infection with the organism of this disease. There would seem to be some relationship of cause and effect in the amount of tissue removed and also in the time elapsing between operation and infection. J.

The Clinical Aspects of Arterial Pressure

G. Oliver (*Edin. Med. Jr.*, vol. XLVI, No. 1, p. 1) describes those methods of recording arterial blood-pressure which he has found to be the most trustworthy and accurate. The inadequacy of the sense of touch as a means of further advancing one's knowledge of the subject is set forth. From the comparative observations made by the writer between the capacity of the sense of touch to estimate the arterial pressure and that of the blood-pressure gauge, he has no hesitation in saying that the finger, even though well trained, can furnish but very

general conclusions. The sphygmograph has likewise served its day, it being of little practical value from a clinical standpoint. The sphygmometer of Roy, the clinical sphygmomanometer of v. Basch, and the recently introduced sphygmometer of Hill and Barnard, are the outcome of physiological work, embodying the well-attested principle of the manometer, and are, therefore scientific instruments. The experience of the writer has conclusively proven that the blood-pressure in the arteries cannot be correctly determined through a solid medium, only through a fluid one. The portability and ease of application of an instrument constructed by him renders it well adapted to clinical work. The instrument consists of two principal parts—the pad and the recorder. The former is made of thin rubber, is small, and of cylindrical shape, encircled by a metal rim. The convex lower end of it projects beyond the rim, so that, when it is applied over the vessel, nothing but the soft rubber is brought in contact with the skin. The upper end of it is flat, and is in contact with a solid disc, connected by a stem with the circular spring of the recorder. It is charged with water brought up to the average specific gravity of serum 1030, by the addition of glycerin. A supplementary pad merely containing air is found useful also, under circumstances elsewhere referred to. The recorder is a circular box, two inches in diameter, containing a circular spring which receives the pulsations transmitted through the fluid pad. The instrument has been standardized from the mercurial manometer, and corroborative readings have been obtained in the dog. The arterial blood-pressure is recorded by placing the pad over the artery, the observer being merely required to press forward the dial part, when the indicator begins to pulsate after denoting a pressure of 50 mm. As the pressure is being steadily increased, the pulsations gradually become larger until they attain to a maximum excursion; then as the pressure is carried further, they are gradually diminished—the progressive rise and fall of the motion being perfectly equable throughout. The mean arterial blood-pressure is indicated when the maximum motion is attained,—the reading being made at the point midway between the two limits of the excursion. The maximum arterial pressure is recorded when the pulsation in the artery, beyond the pad, is obliterated. In determining the arterial pressure by the fluid pad the principle followed is to equilibrate the fluid pressure within the pad to that within the artery; so

that when that point is reached, the two pressures being exactly balanced as it were, and the pad being then but a diverticulum of the artery, the maximum motion of the pulse-wave is developed. In its range of application, the instrument furnishes the blood-pressure in any superficial and accessible artery, and in the veins. The writer states that, as a rule, the maximum excursion of the radial pulse is large, being in an average case from 5 to 8 mm., the amplitude of the motion unfolding the character of the pulse—a point of some clinical importance. Whenever the excursions reach 6 mm., the observer will find it conducive to accuracy of reading, either to substitute the air-pad for the fluid pad, which reduces the motion to about one-half, or to select a smaller artery.

The De Zeng Refractometer

Concerning this instrument, Dr. T. Q. Woodruff comes to the following conclusions (*Am. Jour. Ophthal.*, July, 1898): (1) It is not a time-saver; (2) it is not always accurate in determining the amount and axis of the astigmatism; (3) it is liable to produce an over, rather than an under, correction of astigmatism; (4) in old people, or where a cycloplegic is contraindicated, it will prove of assistance; (5) in myopia and hypermetropia, it is most satisfactory in determining the full amount of the error under a cycloplegic; (6) it is expensive. G.

Treatment of Interstitial Nephritis

Dr. E. J. Brown thus outlines the treatment of this common disease in an article in the *Med. Record* (Sept. 3, 1898, p. 334): Interstitial nephritis cannot be cured, but if the patient will co-operate with us by proper dieting, mode of life, etc., we can promise him that his life may be prolonged many years, and often indefinitely. Let him remember that he must not eat anything that comes from a butcher's shop; his meat should be confined to fish and an occasional meal of poultry; no eggs or other nitrogenous food. Restrict the quantity of sugars and starches and encourage the ingestion of fats; he should drink an abundance of milk and avoid wines, spirits, and tobacco; exercise in the air is very desirable and an occasional change of scene and climate is beneficial; woolen undergarments should be worn throughout the year, the weight varying with the season; the night-robe should be woolen and reach to the feet; plenty of water should be taken between meals, and a moderate quantity at the meal; in all cases the bowels should be carefully regulated. As far as medicines are con-

cerned, many patients need none; but those who are apparently well, but with some hypertrophy of the left ventricle, with a tense pulse, and who feel dizzy at times and have headache, are much relieved by potassium iodide, which softens the pulse and relieves the contracted arterioles. In treating this disease we must remember that there are two indications to be fulfilled: first, to remove an irritant poison from the system; second, to retard the contracted blood-vessels. For the first object we give diuretics, such as acetate of potassium and digitalis; also diaphoretics, such as the hot bath, hot pack, and pilocarpine, and then free catharsis. For the second purpose, that of relaxing the contracted arteries, iodide of potassium, chloral, and nitroglycerin are indicated. The last remedy—nitroglycerin—is by far the best remedy for removing the symptoms due to high tension, such as dizziness, throbbing in the head, dyspnea, etc. For the direct effect upon the pathological conditions in the kidneys, small doses of potassium iodide and mercuric chloride are considered the most useful remedies. R.

Albuminuria—Considerations Suggested by Twelve Hundred and Forty-eight Examinations in Non-renal Cases

A. K. Stone (*Bost. Med. and Surg. Jour.*, Vol. CXXXIX, No. 12, p. 285), from a series of cases, numbering 1248, representing a class of patients occupying about the same station in life and whose surroundings are very similar, such as working girls and women and the wives of industrious laborers and clerks, declares that, by itself, albumin is of no prognostic value, the amount present also giving no idea of the immediate outcome or of the remote conditions which may ensue. The smallest amount present or even the entire absence of albumin is not incompatible with the most extensive conditions of renal degeneration. Especially to be considered of importance are the total urinary excretion and the amount of solids, especially urea, which the urine may contain. In relation to casts, which were at one time considered of the greatest prognostic value, the use of the centrifuge has seemed to show that single casts can be found in almost every urine, certainly in a much greater proportion of cases than show albumin in the urine; the deduction to be made from this is that a few hyaline or fine granular casts of small diameter, with or without an occasional epithelial cell attached considered by themselves show absolutely nothing as to

noid follicles of the tongue, larynx, trachea, esophagus, tonsils, and even of the stomach; a narrowing of the arteries; an abundant development of fat; and certain osseous changes indicative of old rickets. The persistent thymus, with one or more accessory features added, was constant in each case. All of the patients except one suffered with epilepsy from childhood; and in at least six of the cases, the clinical histories were those of idiopathic grand mal. Four of them had periodic mania; two of the women and one man were found dead in bed after having retired in apparent good health. In the opinion of the writer, thymic sudden death in adults, and thymic asthma or laryngismus stridulus and its sudden fatalities in infancy, are conditions of extreme interest, and quite as mysterious in their causation as epilepsy. The morbid anatomical conditions found in the eight epileptics referred to make a picture of what the German pathologists style the lymphatic constitution. To account for these singular anomalies in their relation to the malady known clinically as idiopathic epilepsy, is at present as yet a purely speculative task. When a firmly established morbid anatomical basis is founded and fully developed, the time for experiments along certain lines suggested by the morbid anatomy will have come.

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general conclusions. The sphygmograph has likewise served its day, it being of little practical value from a clinical standpoint. The sphygmometer of Roy, the clinical sphygmomanometer of v. Basch, and the recently introduced sphygmometer of Hill and Barnard, are the outcome of physiological work, embodying the well-attested principle of the manometer, and are, therefore scientific instruments. The experience of the writer has conclusively proven that the blood-pressure in the arteries cannot be correctly determined through a solid medium, only through a fluid one. The portability and ease of application of an instrument constructed by him renders it well adapted to clinical work. The instrument consists of two principal parts—the pad and the recorder. The former is made of thin rubber, is small, and of cylindrical shape, encircled by a metal rim. The convex lower end of it projects beyond the rim, so that, when it is applied over the vessel, nothing but the soft rubber is brought in contact with the skin. The upper end of it is flat, and is in contact with a solid disc, connected by a stem with a circular spring of the recorder. It is charged with water brought up to the average specific gravity of $\frac{1030}{1000}$, by the addition of glycerin. A supplementary pad merely containing is found useful also, under instances elsewhere referred to. The recorder is a circular box, two inches in diameter, containing a circular fluid pad which receives the pulsations through the fluid pad. The instrument has been standardized from the aneroid manometer, and corroborated by the blood-pressure is recorded by the pad over the artery. The instrument merely required to be placed over the part, when the instrument is in position after denoting a pressure is the pulsations gradually attain to as the pressure gradually and fall to an equable blood-pressure. The instrument is a most accurate and reliable means of determining the blood-pressure within the arteries.

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favorable for the artery, or almost stationary; good general usefulness, and perse-

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any duration of treatment with or more for the light cases or a year for bad cases, must be kept up in order to secure the continuance of the improve-

of treatment depends upon knowledge of the method. This is especially true of bad cases.

Exercises should be chosen most suitable to remedy the existing ataxia, and effort should be made to do them with the greatest precision.

The sense of fatigue is often blunted in ataxics, while over-fatigue injures them. The patient should, therefore, be guarded against too taxing or too prolonged exercises, or other unnecessary efforts.

10. To obtain most benefit from the treatment the constant supervision of the physician, at least in its early periods, is absolutely necessary. S.

Inoperable Sarcoma—Treatment by Coley's Method

From a careful study of his own cases as well as those thus far treated by other surgeons, Dr. W. B. Coley (*Med. Record*, Aug. 27, 1898) concludes:

1. A considerable number of inoperable sarcomata, the correctness of the diagnosis of which is beyond question, have entirely disappeared under this method of treatment.

2. A large proportion of these cases have remained free from recurrence more than three years after treatment—the period which has been accepted as of sufficient length to justify their being regarded as permanent cures.

3. Different varieties of sarcoma differ widely as regards the manner in which they are acted upon by the toxins. The results thus far show the treatment to be most successful in the spindle-celled variety, one-half of the spindle-celled sarcomata so far treated having disappeared. Round-celled sarcomata yield less readily, although a certain number have been successfully treated. No case of melanotic sarcoma has, up to the present time, shown more than slight improvement.

4. The action of toxins upon sarcoma

the condition of the kidney. The writer excluded from his list those who were beyond doubt nephritic or cardiac cases with any sign of dilatation and venous stasis; also those cases where there was well-marked tuberculosis or other diseases accompanied by well-determined degenerative conditions. Thus were considered, for the most part, cases presenting anemia, hard work, enteroptosis, pelvic conditions, dyspepsia, etc. The report is interesting as being exclusively of women. Albumin was found in 298, or 23.08 per cent. of the 1248 cases. The highest percentage was found in early life, in the time when it has been observed that the so-called transitory albuminurias are most apt to occur. When the age of fifty was reached there was also noticed a distinct advance in the number, as would be expected from the beginning of senile changes. The writer concludes that those cases presenting persistent slight albuminuria, are, on the whole, less tractable to general treatment and hygienic measures than those not having this symptom, and that the albuminuria, while it showed no indication of renal disease per se, yet is a distinct danger-flag showing conditions of mal-oxidization, which pointed to the need of the most careful examination into the condition of the circulation and possible causes of mal-assimilation of food in the attempt to establish the cause of the conditions under consideration.

Study of the general clinical conditions in the majority of cases, such as careful attention to the condition of the circulation manifested by the heart-sounds and strength of the pulse, and a consideration of the factors leading to any digestive disturbance, give a much clearer insight than exact knowledge regarding minute microscopic or chemical changes of a single specimen of urine. L.

Management of Typhoid Fever

Dr. S. Solis Cohen (*Pa. Med. Jour.*, July, 1898) outlines the treatment as follows: The patient should have physical and mental rest.

We should regulate rather than interfere with the development of the course of affairs toward recovery; danger of hemorrhage should be averted by precautions in diet.

We should avoid overburdening the digestion, yet we should nourish adequately.

We should keep the bowels clean and reduce sepsis, maintain the secretions, keep up the peripheral circulation, and do no useless drugging.

The following are pregnant statements: "The patient must be taken into considera-

tion; not alone the individual, his temperament and idiosyncrasies, but his surroundings and circumstances, and the manner in which he is reacting against morbid processes, as expressed by all the symptoms. The physician should not look upon all the disturbances of function seen in sickness as in themselves morbid, and requiring to be antagonized. Many of them are expressions of the natural tendency toward recovery, just as the swaying of the tight-rope walker to left and right, is not an evidence of ataxia, but of the effort and the ability to preserve his equilibrium. To strike up the arm of the somnambulist would cause his fall; and to strike unnecessarily or violently at the temperature, the diarrhea, the cough of a patient with enteric fever may precipitate him from safety into the grave." "Too great a fall of temperature after a bath is harmful. Pump-handle charts resembling septic fever are bad charts. A fall of one degree Centigrade is enough for a single bath." G.

A Simple and Rapid Method of Detecting Tubercle Bacilli in Fluids, Especially in Milk

E. W. Hammond (*Montr. Med. Jour.*, Vol. XXVII, No. 7, p. 507), of McGill University, after experimenting with the various methods recommended by other investigators, has devised a method which seems to him the most satisfactory. The milk, to which preferably in order to arrest the growth of other bacteria (which are apt to hide the tubercle bacilli) 5 per cent. of crystallized carbolic acid is added, is put in two tubes (about 15 cc. in each) and centrifugalized. After centrifugalizing for about 15 minutes, the supernatant fluid is poured off; the precipitated debris, which contains the bacilli, is then treated while in the tube with about 3 cc. of a 5-per-cent. caustic-potash solution, is mixed up thoroughly, by giving a good shake, and is left for two or three minutes. The tube is then filled up to the 15 cc. mark with distilled water and centrifugalized for about 20 minutes. If now the supernatant liquid be taken off the minute quantity of the debris at the base of the tube can be examined at once, or if the material be required in a still purer condition, completely free from caustic potash, a series of dilutions and centrifugalizations with distilled water can be carried on. By this method a film can be made on a slide or cover-slip, which is free from fat and proteid granules and which contains only the bacteria present, together with any solid debris which may be in the milk or other fluid. It is wholly unneces-

sary to treat milk with sulphuric ether in order to separate off the fats, the caustic potash removing both fats and proteids after the first centrifugalization in a way that is completely satisfactory. The author claims that this method is more delicate and affords a more sure diagnosis of the presence of tubercle bacilli in milk than does inoculation. Milk in which the existence of tubercle bacilli was proved by this method was inoculated into more than 50 guinea-pigs and rabbits and only in one did tuberculosis develop, thus showing that when the bacilli exist in too minute quantity in too great dilution, inoculation cannot be depended on. Of course this same method can be employed for the detection of bacilli in other animal fluids; it gives excellent results with sputum and urine. R.

Kernig's Sign in the Diagnosis of Meningitis

Netter (*Le Bull. méd.*, No. 59, July 24, 1898) calls attention to the sign given by Kernig, of St. Petersburg, for the diagnosis of meningitis, one not previously mentioned by physicians. Netter has found it in 41 out of 46 cases studied by him, i. e., in 90 per cent.

The patient is examined first in the dorsal decubitus and then sitting. In the first position it is very easy for the patient to extend the leg completely; in the sitting posture, however, the leg can no longer be extended completely. In very marked cases it cannot be extended beyond 90 degrees, and in all cases not beyond 135 or 140 degrees. But as soon as the patient lies down, complete extension is again easy. This phenomenon has not been met with outside of meningitis; no explanation is offered. H.

Locomotor Ataxia Treated by Systematic Exercise

Dr. P. H. Zenner (*Cincin. Lanc.-Clin.*, Vol. XLI, No. 3, 1898) concludes that:

1. All cases should be benefited by the exercise treatment, many to the degree of apparent recovery, unless there be special contra-indications to the treatment. Failures, under these circumstances, usually mean faulty method, or that the treatment has not been persevered sufficiently long.

2. Contra-indications are: Loss of vision, mental impairment, bone- and joint-disease, spasticity and muscular atrophy, the presence of strong irritation-symptoms, rapid progress of the disease, a state of great exhaustibility, and serious organic disease.

3. In cases of anemia, poor nutrition, and lax joints, these general and local conditions

should be remedied before the treatment is instituted.

4. The conditions most favorable for the treatment are, a stationary, or almost stationary, state of the disease; good general health, intelligence, hopefulness, and perseverance.

5. Light cases are more amenable to a practical cure, but bad, even bed-ridden, cases often give brilliant results.

6. The necessary duration of treatment varies from a month or more for the lightest, to six months or a year for bad cases, but the exercises must be kept up in order to insure the continuance of the improvement.

7. Success of treatment depends upon thorough knowledge of the method. This is especially true of bad cases.

8. Exercises should be chosen most suitable to remedy the existing ataxia, and every effort should be made to do them with greatest precision.

9. The sense of fatigue is often blunted in ataxics, while over-fatigue injures them. The patient should, therefore, be guarded against too taxing or too prolonged exercises, or other unnecessary efforts.

10. To obtain most benefit from the treatment the constant supervision of the physician, at least in its early periods, is absolutely necessary. S.

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must be regarded as a rapidly progressing necrobiosis with fatty degeneration. This action is not the result of inflammation, nor does it resemble the destructive action of a local escharotic, but it is rather specific in character, exerting a direct influence upon the tumor-cells.

5. The specific action is further confirmed by the fact that several tumors have entirely disappeared when the injections were made subcutaneously remote from the tumor.

6. This method of treatment is attended with a certain amount of risk, unless certain precautions are taken. The chief dangers to be guarded against are: (1) Collapse from too large a dose of the toxins or from injections into a very vascular tumor. (2) Pyemia from insufficient precautions as regards asepsis, especially in cases in which there is a granulating or sloughing surface. (That the risks are small is shown by the fact that in upward of two hundred cases treated personally death was caused by the injections in but two, one of which was so nearly moribund that no treatment should have been begun.)

7. The use of small doses of toxins for a short period after primary operation, as a prophylactic measure, theoretically, has much to recommend it, and if proper precautions be observed the treatment should be practically free from risk.

8. The action of the toxins of erysipelas upon sarcoma, as shown by clinical results, is in strict accord with the known action of the living streptococcus of erysipelas; therefore the method has a perfectly logical and scientific basis. S.

Treatment of Typhoid Fever

E. G. Wood (*Med. and Surg. Bull. Alumni Assn. Med. Dept. Univ. Nashville, Tenn.*) emphasizes some points in the treatment of typhoid. All drains, sewers, and water-closets should be disinfected frequently during an epidemic. The patient should be isolated and seen only by his attendants. Articles which cannot be boiled should be aired eight hours daily. Among articles of diet albumin-water is mentioned—the whites of eggs mixed with twice the quantity of water; this is a good vehicle for brandy or whisky. A full dose of brandy at night is likely to induce sleep in a restless patient. The author believes in the use of intestinal antiseptics, preferring Burney Yeo's chlorine mixture, which is made as follows: Into a 12-oz. bottle put powdered potass. chlorate (grn. XXX) and strong hydrochloric acid (3 i); chlorine gas is at once liberated. Cork the bottle, shake it, and keep it closed until it is filled

with the greenish-yellow gas, then pour water into the bottle little by little, corking and shaking at each addition until the bottle is filled. To this solution may be added quinine (24 to 36 grn.) and syrup of orange-peel (3 i). The free chlorine gas is in solution. Of this give 3 i 2-4 hours according to the severity of the symptoms, especially those of tympanites, diarrhea, and fetid stools; for this mixture thymol or sulpho-carbolate of zinc may be substituted. Instead of sprinkling water on the patient while using the cold wet pack, a succession of towels wrung out of cold water and rapidly changed may be laid over and around his body.

For constipation enemata are preferable. G.

Galvanic Treatment of Vomiting

Apostoli read a note at the French Society of Electrotherapy, session of July 21, 1898, on the galvanic treatment of vomiting and its best operative technic. His general conclusions were as follows:

1. Galvanization of the pneumogastric nerves, applied according to the rules formulated in 1882 and 1884 by Dr. Apostoli (which comprise the seat, the nature, the dose, the duration, the time, and the number of applications), is the most frequently successful means employed for vomiting of pregnancy and most gastric troubles of hysteria.

2. The best method of galvanization of the pneumogastrics is that which permits use of the maximum density of current over the nerves, whether by placing the positive pole single or double over the nerve, or preferably by placing over each nerve an opposite pole.

3. The bipolar method of using the largest total of lines of galvanic current circulating from one pole to the other, is the method of choice, superior for rapidity and efficaciousness to the monopolar method which, having only one pole active (simple or divided), can, all other things being equal, use only the smallest electrical density or the feeblest total of lines of galvanic current.

4. The clinic has confirmed by sixteen years of Dr. Apostoli's practice the superiority of the bipolar method which he recommends and its incontestable advantages in the immediate symptomatic cure of the nervous troubles of the pneumogastrics (vomiting, gastralgia, nausea). H.

Treatment of Hematuria

The hemostatic action of gelatine (*Med. Press*, Vol. CXVII, No. 10, p. 242) has been remarked by several clinicians in cases of metrorrhagia, epistaxis, and hema-

temesis, due to round ulcer. Guyon has treated four cases of hematuria due to neoplasm of the bladder, with success as far as regarded the object in view. The solution used was composed of 1 dr. of gelatine dissolved in 4 oz. of a solution of sodium chloride at 7 per 100. At the time of using, the mixture was liquefied in a sand-bath, and after washing out the bladder with a solution of boric acid, it was injected and allowed to remain permanently in contact with the bleeding surface. L.

Dieting of Infants

There are four ways, states Dr. J. A. Gracey (*Tex. Cour.-Rec. of Med.*, July, 1898). (1) Mother's milk; the best way: Nipples should not be fissured nor retracted; the child should be put to the breast a few hours after birth, to get the beneficial effect of the colostrum. Regular nursing, two hours during the day, every four hours at night. Babies cry often from thirst; between meals give water. Healthy breast-milk should be persistently alkaline, sp. gr. 1.031; somewhat bluish color; slightly sweetish taste; thin and watery consistence; (2) wet-nurse, who should be healthy, free from constitutional taints and whose child is about the same age as the mother's; (3) mixed feeding; artificial feedings may be given at night so as to allow mother time to rest and her milk to increase, or nature's and the artificial preparation may be given alternately; (4) artificial feeding. Consult Leeds, Holt, Starr, and Gilman Thompson. G.

A New and Successful Treatment of Certain Forms of Headache

This treatment of headache, advocated by Dr. E. L. Vansant (*Dungl. Coll. and Clin. Rec.*, Vol. XIX, No. 5, 1898), consists in forcible syringing of the nasal accessory sinuses with a stream of hot, dry air. In some instances the air used is medicated or nitrous oxide gas used. The effect of this method of treatment is explained by the writer as follows: The condition causing the headache (the writer refers particularly to frontal headache) consists in a blocking and stoppage of the small outlets to the sinuses or to the small cavities within the sinuses; that this stoppage is followed in some instances by a retention of gases or fluids in these cavities; in other instances by absorption and rarefaction of the confined air, thus lessening the support of the atmospheric pressure to the walls of the blood-vessels and causing chronic congestion of the mucous membrane lining the sinuses. The effect of the forcible syringing of these cavi-

ties with hot air is to open up these outlets, to allow retarded gases or fluids to escape, and to restore the equilibrium of the atmospheric pressure. When the outlets are once freed of their obstruction they do not easily become obstructed again; hence the relief from headache was not only obtained quickly, but the good results of the treatment were lasting.

The same treatment proved also valuable in tinnitus aurium.

In certain pathological conditions of the nasal chambers, such as irregularity of the septum, enlarged turbinates, polypus, etc., the writer combines operative treatment with the hot-air syringing with very gratifying results. S.

Snake-bites and Their Treatment

Dr. B. M. Ricketts (*Cincin. Lanc.-Clinic*, Vol. XLI, No. 9, 1898) concludes:

1. The copperhead, coral-snake, and rattlesnake are the only serpents in the United States which possess fangs, at the base of which is a sac containing poisonous fluid.
2. The result of inoculation depends upon the dose and the size of the human being or animal.
3. Most of the authentic cases of death of these serpents have been among children.
4. No authentic record of death, as the result of the bite of any of these snakes, has been found in the adult man by himself.
5. If death does not result within a few hours, it is not the venom, but other agencies, that produce it.
6. The bite of the cobra is not so deadly as is generally supposed.
7. Overstimulation from alcohol and other agencies is oftener the cause of death than virus-inoculation.
8. The effect upon the body is more severe if the virus is injected into blood-vessels.
9. There seems to be no subject which is surrounded by so much uncertainty and exaggeration.

The treatment is general and local. Strychnine nitrate hypodermically every twenty minutes until its physiological effects are produced, or until coma is overcome. Alcohol, digitalis, atropine, and nitroglycerin are all more or less beneficial.

Locally the writer advises the use of a 1-per-cent. solution of chromic acid; chloride of gold or permanganate of potassium may be substituted for chromic acid. Among other drugs he believes jaborandi, administered internally, to be of undoubted benefit. Massage of the swollen parts and lavage of the stomach aid greatly in combating the poisoning. S.

Build up the general health. Surgical means may be necessary. If the coccyx be dislocated, reduce the dislocation; if fractured restore its position, and if possible maintain it in its place by a piece of short adhesive plaster applied from its tip up over the sacrum. We may have to keep the patient in the recumbent position. Complete separation of the muscles and ligaments (operation of Simpson) may be necessary. Removal of coccyx may have to be resorted to. G.

Malignant Growths of Cornea and Conjunctiva

There are, states Dr. C. D. Marshall (*Jour. Eye, Ear, and Throat*, July, 1898), three varieties of malignant growth to which the outer parts of the eye are susceptible: epithelioma, sarcoma, and rodent ulcers. The first two are rare; the last is hardly a primary growth of the conjunctiva, since it usually commences in the adjacent skin. The chances of permanent cure depend upon early and complete removal. Pigmented epithelioma (a rare affection) may be mistaken for melanotic sarcoma. The doctor details a case of epithelioma and one of sarcoma. G.

Rickety Curvatures of the Legs

In determining the line of treatment of rickety curvatures of the legs, Dr. A. H. Tubby (*The Hospital*, Vol. XXIV, No. 624, 1898) depends upon the condition of the bones, whether soft or eburnated, the direction of the curve, and the age and social status of the patient. In the case of the neglected children of the poor, osteotomy is called for in less severe cases, and earlier than in children of the well-to-do, who receive efficient supervision and suitable apparatus. All forms of curvature except the marked anterior are amenable to mechanical treatment when the bones are soft. The question of treatment the writer discusses under three headings:

1. Constitutional treatment with local manipulation is advisable for babies who have not yet walked, as it is a fact that curvature of the tibia and fibula is sometimes present before the child has attempted to walk; for children who are not weighty in the body; for those in whom the bones are not unduly soft, and the curve is a general rather than a localized one.

The usual constitutional means of alleviating rickets must be carried out fully, while the legs should be bathed and rubbed night and morning, and the nurse instructed to hold the leg at the knee and ankle and, using the thumbs as a fulcrum, to make

gentle attempts to straighten the leg. This manipulation should be performed night and morning. A record of the curvature, by means of either photographs or tracings, ought to be taken from time to time, and if the curve show any increase, mechanical supports are required.

2. Constitutional treatment with mechanical supports and manipulative treatment is called for when a curve, originally slight is becoming marked; when a child is weighty, and cannot be kept off his legs; when the curve is located in one part of the bone more than another; and when the child is under four years and the bones are not hardened.

The question arises, should the form of apparatus be such as entirely to prevent the child walking? The author thinks not. All the forms of apparatus act on the principle of taking their fixed points from two bony prominences and drawing the curve towards the support. Provided this is efficiently done, the child should be allowed to use the legs, as free movement by them encourages that improved nutrition which more than counterbalances any of the bad effects of the body-weight.

The simplest form of apparatus is an inside wooden splint from the internal condyle to the internal malleolus for external curvatures, and the reverse for an internal curvature. But in many cases the deflection of the bone is as much anterior as lateral. The single splint is then inefficient, and the difficulty may be overcome by using a through splint of the following construction: Two straight pieces of wood or tin of suitable length and width are joined together so as to make an elongated rectangular splint. If the curve is antero-external, the splint is put on the inside and the back of the leg only. By the pressure of the bandage the antero-external curvature is drawn towards the angle of the splint. The same principle exists in the less cumbrous but more expensive tibial instrument, in which there are rigid lateral and posterior rods fixed to the boot and knee-piece, with straps passing round the leg.

In those cases where a marked anterior curvature exists, with elevation of the heel, mechanical appliances are of little or no value.

3. Operative interference is called for when the bones are so hard that mechanical treatment is out of the question—in children over four years of age, in cases of severe anterior curvature, and in marked instances of lateral curvature.

With regard to the choice of operation, the majority of surgeons prefer osteotomy, but some elect to perform osteoclasis. It

either by the Alexander method or by ventro-fixation. Only 4 of this number have as yet recovered mentally, although 11 others have shown more or less mental improvement.

4. There were 30 cases in which the chief operation done was the removal of diseased cervixes. Of these, 12 are now well mentally, and 9 others have improved, a most gratifying record.

5. Of 21 cases in which minor uterine diseases were removed, usually by curetting, there recovered 12, and 2 improved—also a most satisfactory showing.

6. The remaining 8 cases embraced operations for vaginal lesions, fistula, etc. No mental recovery followed in any of these cases, and in only 3 was there any improvement observed.

Of the 110 cases reported, 36 per cent. were restored mentally, 29 per cent. showed an improved mental status, while in 29 per cent. the mental condition remained stationary and less than 3 per cent. died within a month succeeding the operation. T.

A New Operation for Hemorrhoids

Dr. S. K. Sims (*N. Carolina Med. Jour.*, July 20, 1898) proceeds as follows: A gentle purgative is given on the two evenings preceding the operation, and a saline each morning after breakfast. After shaving and antiseptic preparation, a speculum (Cook's or Matthews') is inserted and the parts divulsed as widely as the instrument will distend them, then with the thumb stretched still farther until the parts are completely paralyzed. The piles should be everted as much as possible and the circumanal region irrigated with 1-2000 bichloride. The tumors are caught individually with four-pronged forceps, pulled out, the mucous membrane is cut through around the base and a silk ligature tied tightly in the groove made by the incision, including only the blood-vessels and connective tissue. The pile is then cut off close to the ligature leaving only enough to hold it, and the cut edges of the mucosa are brought together over the stump with continuous sutures of catgut. If the tumor is large, with a curved needle pass a double suture through its base and ligate it in two portions; then suture the mucous membrane in the way described. Large external piles should be treated in the same way; if they are small and indurated, they may be cut off close to the skin, any bleeding points ligated and the cut edges brought into close apposition with silk sutures; after this the author proceeds in the usual way, not giving a cathartic until the third or fourth day. It is claimed that

by leaving only closed wounds made under antiseptic precautions we lessen risk of supuration and possibly infection, healing is more rapid, there is less pain, less danger of hemorrhage and of distortion, and perhaps of neuralgia of the rectum from contraction of the cicatricial tissue. G.

Hemorrhage after Accidents

W. F. Namatney's directions are (*Tex. Cour. Rec. of Med.*, June, 1898):

For arterial bleeding pressure above wound, should bleeding continue compress main artery supplying blood to the part, in the part of its course nearest the surface. Use tourniquet or tie a knot in a handkerchief; apply knot on the artery, draw the ends of the handkerchief tightly and tie ends around the limb; if more pressure is necessary pass a stick under the handkerchief and twist. In the palm a pad of firm material should be placed on the wound, closing the fingers upon it, the wrist should be bandaged and the forearm suspended in a large arm-sling; if the wound be between elbow compress the brachial artery near the fold of the elbow and the forearm bent up and tied firmly to the arm; if above the elbow compress the brachial artery near the head of the humerus as possible; if in the armpit, a firm pad must be pressed into the axilla and the arm bound down to the side; the subclavian artery may have to be compressed. For the lower extremity the proceedings are similar. In wounds of the face over a bone, apply pressure; if on the cheek, place a finger in the mouth and compress; if on the lips pressure on both sides between thumbs and forefingers.

For venous bleeding, apply pad of lint dipped in cold water over the wound; should this fail, bandage limb tightly on the side away from the heart. Elevate limb. G.

Coccygodynia

The treatment depends on the cause, states Dr. J. T. Wilson (*Tex. Cour. Rec. Med.*, July, 1898). The pain is sometimes so intense that morphia may have to be given. If the condition is due to neurasthenia or hysteria, morphia must be withheld and the bromides, cannabis indica, belladonna, phenacetine, aconite, gelsemium, etc., singly and in combination must be tried. If caused by cold or rheumatism use anti-rheumatics; if by neuralgia, use a blister with anti-neuralgics. Locally, try counter-irritation, anodyne liniments, aconite, and veratria-ointment. Galvanism or, in sthenic cases, faradism, may be employed. Keep the bowels open.

dominal muscles may be held accountable for the greater prevalence of the disease in males.

3. Such injuries and strains act by forcing material, loaded with the bacteria which produce appendicitis, from the cecum into the vermiform appendix.

4. In consequence of the irritation of such material or from some other cause, these germs here find a favorable soil for their multiplication and development.

5. In common with other germ-diseases a time of incubation must elapse before symptoms sufficiently marked to prove characteristics of appendicitis can appear.

6. The disease is of growing medico-legal importance, as many cases are of traumatic origin, and may therefore give rise to proper suits for damage or valid claims against accident-insurance companies.

R.

Abdominal Surgery

Dr. H. Tuholske (*N. Amer. Jour. Diag. and Practice*, August, 1898) enumerates some special difficulties in diagnosis:

Percussion, in ovarian tumors, reaching to the umbilicus or above, usually elicits dulness from the public symphysis upwards and resonance laterally and above. Resonance between the cystic growth and the symphysis, as well as above and laterally, requires differentiation between encysted peritoneal dropsy and ovarian cysts. Careful palpation of the cyst-wall may help out. In multilocular cysts or dermoids greater resistance of some firm masses may be found; the wall of a parovarian cyst will be thin like that of the encysted peritoneal dropsy, but differs in rarely having adhesions to the intestinal coils, as is always the case with the latter. This condition must be rare. Intimate connection between the uterus and intrapelvic tumors requires differentiation between papillomatous cysts of the broad ligament, fibro-cysts of the uterus, sub-peritoneal fibroids with mucoid degeneration, dermoids, tubal pregnancy, tubo-ovarian cysts, and ovarian hydrocele; in any of these the uterus may be enlarged and displaced.

G.

Double Mastoid Abscess

Dr. J. F. Crouch (*Jour. Eye, Ear, and Throat*, July, 1898) reports a case where the inflammation started in the throat, passed along the Eustachian tubes, and infected both middle ears at the end of the first week; in the tenth week an abscess resulted in the mastoid process of the right temporal bone with necrosis of its inner and posterior walls. As a result of the opening of

the inner wall, gravitation-abscesses formed in the neck; as a result of the opening in the posterior wall, there was involvement of the outer coat of the lateral sinus. In the fourteenth week of illness, there occurred an equally extensive abscess of the dura of the middle fossa of the skull. The mastoid cells on both sides were removed—the patient recovering with restoration of hearing.

G.

Aseptic Surgery in Country-houses

Dr. C. K. Ladd (*Pa. Med. Jour.*, August, 1898) describes the procedure in a case of appendicitis: Water was boiled in a large boiler and cooled. The patient's abdomen was shaved and washed first in yellow soap-suds and afterward in permanganate, followed by oxalic acid. Solutions were made in porcelain wash-basins, which had been scalded before using; the towels used were baked in an oven and afterward wrung out of a strong solution of mercuric chloride in boiled water. The author and one assistant prepared their hands and arms as usual and were covered with aprons of baked sheets, tied around the neck and body by means of bandages. Instruments, ligatures, etc., had been boiled in a solution of soda and water. "It is almost impossible," says the author, "to prevent interested friends from taking the temperature of the boiled water by plunging their hands in it, and their propensity to wipe out aseptic basins with their aprons is absolutely incurable." The burning of from 7 to 10 lamps gives the heat of a Turkish bath; these must be placed high above the ether vapor.

G.

Catgut

E. O'Neill Kane (*Pa. Med. Jour.*, August, 1898) states that sepsis often follows the use of catgut. This is not because sterilization has failed to destroy germ-life, but because the material itself is a most fitting nidus for pathogenic organisms, after its inception within the field of operation; it is prone to infection after it has begun to swell and soften under the influence of the heat and moisture of the vital tissues; on the contrary silver wire, silkworm or even silk are not likely to afford either lodgment or nourishment for germs. The use of catgut is therefore deprecated in accident-surgery and when in operations of election, much tearing is likely or where the patient is of feeble resisting power; but catgut is satisfactory in cases of clean-cut wound, rapidly made and rapidly closed, with free drainage in a pure-blooded patient.

G.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Convulsions in a Child Due to Intemperance in the Nurse

Dr. Meunier (*Jour. de Méd. et de Chir.*, April 25, 1898) reports the case of an infant 5 weeks old which developed obstinate convulsions which resisted all kinds of treatment. Acute hydrocephalus was thought of and lumbar puncture was suggested. The nurse was removed and the convulsions ceased. It was proved afterward that the convulsions were unmistakably due to the nurse's indulgence in intoxicating liquors. The author analyzes three similar cases from the literature, and concludes: 1. Convulsions due to drunkenness in the nurse are usually accompanied with gastrointestinal disorders or fever; the nutrition is satisfactory and the increase in weight is greater than the average. 2. If kept up long, the child may pass into a condition of constant tremor, interrupted occasionally by severe eclamptic seizures. 3. In the presence of hereditary neurotic predisposition, the child may get convulsions even if the nurse drinks but moderately. R.

The Use of the High Forceps

Toth (*Epit. Brit. Med. Jour.*, May 7, 1898) deals with this question with special reference to the contracted pelvis. He refers to the different fashions that prevail as to the use of the forceps, the frequency in head-presentations varying from 1 or 2 to 11 or 12 per cent. In Buda-Pesth, among 7,775 births in fifteen years, the forceps was used 155 times—that is, in 1.9 per cent. Forty-four cases of high forceps came under the author's observation, falling into three groups. (1) With normal pelvis, 10 cases; (2) with contracted pelvis, 24 cases; (3) unsuccessful applications followed by craniotomy, 10 cases. In the first group the indications were uterine inertia, protracted second stage, with danger to mother or child, undue stretching of the lower uterine segment, with risk of rupture of the uterus; seven of the children were saved, two of the others weighed 11½ and 12½ pounds, respectively. In the second group, twenty-one children and twenty-three mothers were saved. In the third group perforation was performed on the living child seven times, and on the dead child three times. One mother died of rupture of the uterus and peritonitis. In this case the assistant, contrary to the practice in vogue at the clinic,

turned after the high forceps had failed and then had to perforate the after-coming head. The indications were: Delayed dilatation and failure of the head to engage, two cases; threatened uterine rupture from undue stretching of the lower uterine segment, seven cases; embarrassed breathing, with severe nephritis, one case. After quoting and comparing many statistics, the author sums up in the following conclusions: (1) The use of the high forceps is not so dangerous, either for the mother or for the child, as is commonly supposed; on the contrary, it gives undeniably better results for both than turning, especially from a head- to a foot-presentation. (2) In general, where labors must be terminated in the interest of the mother, then, if conditions are no longer applicable for turning, the high forceps should be tried before perforation of the living child is resorted to. (3) In cases of generally contracted pelves of the first and second degrees, where the narrowing affects especially the upper straits, the high forceps should have the preference over turning after a due period of waiting has shown that a spontaneous termination of labor is still possible. The same principle should guide us in those cases where the disproportion is due to a relatively large child, while the pelvis is of normal size. (4) In a case where the high forceps has failed, further waiting is not permissible, but perforation must at once be resorted to. Under favorable circumstances symphysiotomy may be considered as an alternative, but turning (into a foot-presentation) is contra-indicated and must be decisively rejected. (5) The high-forceps operation can be performed with any instruments of convenient length; but the author has been repeatedly convinced of the superiority of Tarnier's axis-traction over other high forceps. G.

Is Tuberculosis Transmissible to the Fetus?

Dr. R. B. Neil (*Med. and Surg. Bull. Alumni Assn. Univ. of Nashville, Tenn.*, May, 1898) believes that tuberculosis can be transmitted from the mother to the fetus. He quotes Osler to the effect that autopsy shows the lungs in the adult to be invariably affected in tuberculosis, while the other organs are involved in very small proportion; whereas the author finds that in children the lymph-glands, the bones, and the joints are mostly affected. He bases his opinion on the results of autopsies on 125 children, in age from 6 months to 5 years, with no history of traumatism in the majority of the cases—the inference being that the infection must have been trans-

mitted from the mother by means of the vascular and the lymphatic systems. The method of transmission, in the writer's opinion, is as follows: There is the tubercle at the apex; there is extension, followed by erosion of capillaries, the entrance of the bacilli into the circulation and the formation of new foci in the various organs, the growing and congested metrium being particularly fertile ground. The growing placenta adheres closely to the uterine wall, its villi dropping into the sinuses and coming in contact with the infectious material.

G.

Cystitis in the Female

The treatment of the above disease consists, according to Dr. Hersler (*Mass. Med. Jour.*), in removing any discoverable sources of irritation which act through the medium of the urine. The urine should be rendered bland by the use of milk diet, the ingestion of considerable quantities of water, the administration of potassium citrate if too acid, or boric acid and salol if alkaline.

Pelvic congestion should be relieved by hot vaginal douches, placing the patient in the knee-chest position, and the correction of constipation.

The inflamed cystic mucous membrane may be remedied by the administration of boric acid, santalwood-oil, copaiba, or creasote by mouth, or injection of carbolic acid, boric acid, or silver nitrate in suitable strengths. The general health must be improved by tonics, etc. Rest in bed, especially in all acute cases, is absolutely imperative. Care must be exercised in making direct local applications.

S.

Menstruation from the Fallopian Tube

Tomson (*Pract.*, Vol. XIX, No. 25, p. 736) describes the case of a woman of 25 who had a child six years ago and since then suffered with severe pains in the abdomen. Two years ago a swelling began to form in the lower part of the abdomen, which finally burst while she was bathing in the sea, discharging a large amount of pus. The opening refused to close, keeping up a constant discharge. In the hospital the fistulous canal was enlarged, scraped, and packed with gauze. The secretion of pus ceased, but every month during menstruation there would be a discharge of blood from the fistula. With the cessation of menstruation the discharge would cease. An examination showed that the fistulous canal led into the left Fallopian tube. The woman refused an operation.

R.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Thymol as a Tenuicide

Dr. U. Campi (*Jour. de Méd. de Paris*, 1898, No. 30) reports that he has employed thymol with success as a remedy against *Ankylostoma duodenale*. His method is as follows: In the evening, after supper, give 15 gme. ($\frac{1}{2}$ fl. oz.) of castor-oil, and follow it the next morning with 8 gme. (2 dr.) of thymol divided into 12 portions, one to be taken every. Then administer a second dose of castor-oil.

To combat the depressing effect of the thymol the author advises giving a stimulant with it.

Ammonium Borofluorate and Ammonium Borosilicate

These two remedies are employed chiefly as inhalations (*Repert. de Pharm.*, X, p. 358). The former is an antiseptic and may be used in all affections of the larynx and pharynx; the latter is used in tuberculosis, diabetes, and gout, and acts as an antiseptic and resolvent. These salts penetrate the respiratory passages deeply, and are disseminated through all the organs. The bromide, chloride, iodide, trichloracetate, and formate of ammonium also act like the fluoborate.

F.

Orrhothepy

In a paper read before the Chicago Academy of Medicine (March 18, 1898) Dr. C. Fisch, of St. Louis, said that in our hitherto essentially empiric conceptions of serum-therapy, the last two or three months have wrought a decided change.

What is antitoxin, what are antipodes? Ehrlich's answer is plain and plausible; what is more it has found experimental affirmation in an irrefutable way. When a guinea-pig is killed with a fatal dose of tetanus toxin, there are found at the post-mortem experimentation considerable quantities of toxin in all of the organs of the animal except in the central nervous system. When on the other hand a healthy guinea-pig is killed, its brain and spinal cord made up in a fine emulsion and injected into other animals, will protect them against and even cure them from tetanus-poisoning. None of the other organs will do that.

Every animal body, says Ehrlich, contains certain complexus of cells which have

a maximal affinity to certain bacterial or other toxin (the cells of the central nervous system for instance, to the tetanus toxin). Of each protoplasmic unity of these cells, definite side-groups are integral parts, which combine with the toxin molecules; this binding of the toxins by the lateral molecular groups is what we call the poisoning of the cells, leading finally, if all the specific groups are involved, to the cells' death. If only some of them are "anchored," as Ehrlich puts it, the cell loses, for the time being, its functional activity, until regeneration or new formation of the side groups has taken place.

Now it is a biologic law that every regeneration implies a certain overproduction; a surplus of specific side-groups is therefore produced which are by and by detached and discharged into the blood-plasma. They form or are the antitoxin, and it will be easily seen that the whole process needs only to be repeated often and intensely enough to insure the presence of large quantities of antitoxin in the blood. They protect the organism by binding the toxin before it can reach the antitoxin-producing cells, that is those cells which are susceptible to its action. By transferring them from one organ to the other their action, too, is transferred.

How is this ingenious theory borne out by our observations on the course of tuberculous infection and its isopathic treatment? There is absolutely not the slightest doubt, the writer believes, that this infection goes along with a slow, insidious intoxication of the tissue-cells caused by the toxins of Koch's bacillus, and directly as well as indirectly leading to neurosis and destruction. It does not matter which one of the several toxic bodies that we are able to isolate from tubercle-cultures is the most active and deleterious; in human as well as in animal tuberculosis we have always to deal with their combined action, and the question, therefore, simply is, can tuberculosis (in animal experiments) be cured by active and passive immunization, and what changes do eventually go along with this process in the animal organism?

Behring reports that it is a comparatively easy thing to cure tuberculous cows by treating them with very active tuberculous toxins. It is well known that Koch cured guinea-pigs, and that the same result has been obtained by Kitasato, Spengler, Babes, and others. There is, however, always some danger connected in confirming in practice to the claims of isopathic therapy. This danger, Dr. Behring says, becomes particularly great in cases of tuberculosis where there exists an abnormally high ir-

ritability, finding its expression especially in a high body-temperature. Those patients, this writer trusts, will be benefited most after we have got possession of a tuberculous antitoxin sufficiently strong for practical purposes; an antitoxin which conveys to the blood poison-binding substances, without the interference of a previous isopathic tissue-irritation. S.

Compound Antiseptic for Vaporization

The following combination is recommended in a recent issue of the *Rif. medica* (August 4):

Formaldehyd	40 parts
Creosote (Beechwood)	10 parts
Oil Turpentine	25 parts
Menthol	4 parts
Twenty to thirty drops, to be heated on a metal platter. F.	

Dropsy—Its Treatment

Prof. Tyson (*Ther. Gaz.*) considers absolute rest, limitation of the amount of fluid ingested, and free movement of the bowels, the most important means in the treatment of obstinate dropsy. The bowels are acted upon by Rochelle salts in doses of one-half to one ounce in about four ounces of water. This may be preceded by a moderate dose of calomel. Digitalis combined with squills and calomel is very useful. Among the newer drugs the author finds theobromine most effectual in the dose of 45 grains per diem. This remedy is given dry on the tongue and washed down by a draught of water. Theobromine acts, the writer thinks, better than diuretin, which is said to consist of equal molecules of sodium salicylate and a compound of theobromine and soda. Next after theobromine comes spar-teine sulphate, the active principle of broom. The dose should be from a quarter to two grains in twenty-four hours. Baths administered after the Manheim plan are a valuable auxiliary, so is massage, which seems to aid in the absorption of the effused liquid. S.

Largin

The following data are now to hand regarding largin, brief mention of which was made on page 428 of the current volume of the BULLETIN:—Largin is a silver-albumin compound, the albuminous constituent of which, protalbin, is a peculiar, alcohol-soluble paranucloproteid derivative. It occurs as a grayish-white powder of low specific gravity, and very readily soluble to the extent of 10.5 per cent. in warm as well as cold water, and soluble also in glycerin, blood-serum, and peptones, yielding clear,

yellow solutions which remain unprecipitated by chlorides or albumin. Largin contains 11.1 per cent. of silver. It is credited with bactericidal powers superior to those of any of the silver-albumin preparations, while being free from any irritating properties.

Dr. C. Pezzoli reports (*Wien. klin. Wochenschr.*, XI, p. 286) having treated in all 60 cases of gonorrhea, but in only 41 of these were the patients under constant supervision. Of this number, 35 were of acute anterior urethritis; and of these, 27 were cured without any symptoms of posterior urethritis occurring. In 8 cases this did occur, however. The mode of employment used by the author was to inject solutions varying in strength from $\frac{1}{4}$ to $1\frac{1}{2}$ per cent., according to the stage of the gonorrhea. The injections were practised thrice daily, the fluid being retained in the urethra for from 5 to 10 minutes, morning and noon, and for from 15 to 30 minutes in the evening. Largin was found, however, not to abort a gonorrhea; it possesses the power to reduce the period of the disease to a minimum, when employed immediately after infection. It was also found to give good results in subacute posterior urethritis of gonorrheal origin, when employed for some weeks, or even months, in the form of a 0.5- to 5-per-cent. solution—most probably because of its mildly astringent action.

Administration of Ichthalbin

Occasionally the ingestion of this tasteless form of ichthyol is followed by unpleasant eructation. This can generally be avoided, experience has shown, by taking 25 drops of a mixture of 1 part of hydrochloric acid and 5 parts of alcohol immediately before ingesting the ichthalbin. This medication has proved itself an excellent alternative and anticachectic.

F.

Extract of Ox-bile in Biliary Lithiasis

Gautier (*Univers. Med. Magaz.*, XI, p. 48) states that he has obtained remarkable results in several cases of biliary colic from the use of an extract of bile. The latter is prepared by first decolorizing the bile to destroy the toxic coloring matter which it contains, and then sterilizing it at a temperature of 104° to 105° C., 100 gme. of bile thus producing 10 gme. of the extract. From $1\frac{1}{2}$ grn. to 3 grn. of the extract were given in pill or capsule twice daily, after meals. The treatment may be continued for years, or given periodically, whenever signs of colic appear. The author does not claim that the remedy has any effect upon calculi which have been already

formed and which may fill the gall-bladder, but that it serves to prevent the formation of fresh calculi. In a group of cases simulating gastralgia, in which the pain is localized in the epigastrium, and radiates downward and to the back, and reaches its climax rapidly and then gradually disappears, the remedy is of especial value. These attacks may last a day, or recur day by day for weeks, and are accompanied by tenderness in the epigastrium and right hypochondrium, and with considerable tympanites and constipation, the stools being dry and pale.

Digitalin Continuously Used in the Vaso-motor and Cardiac Lesions of Senility

Dr. Henry Beates, Jr. (*Jour. Amer. Med. Assn.*, XXXI, p. 761), has given years of study to the use of digitalin in the vaso-motor and cardiac lesions of senility, and as a result of his investigations, the author believes that the continuous use of digitalin in doses sufficiently large to restore lost circulatory equilibrium will bring about remarkable results. Unfortunately the term "digitalin" is applied to a product which represents a complex mass or glucoside composed of one or more of the following active principles contained in crude digitalis: (1) Digitein, a glucoside occurring as a white amorphous bitter powder, soluble in water and alcohol; (2) digitalin, a yellowish powder, soluble in alcohol, chloroform, and 2000 parts of water; (3) digitalin German, really digitein and an alleged inert crystalline derivative, known as digitin (this latter in a very small percentage); (4) digitonine; (5) digitalin Kiliani, resolvable by treatment with acids into digitalose and digitaligenin; (6) digitalin crystalline, soluble in alcohol and ether; (7) digitalin purified, which contains, also, digitein, digitonin, and digitalin Kiliani; (8) digitonin; and (9) digitoxin.

Each of these derivatives possesses especial therapeutic power, therefore, attention is directed to the fact that that derivative, the use of which this paper is the outcome, is a so-called digitalin, known as Digitalin German Merck. None other will effect the results set forth. Its dose is from 1-10 to $\frac{1}{2}$ grn., from three to six times daily, as the severity of case requires.

If instances of advanced disease are encountered, and dissolution threatens when first seen, $\frac{1}{2}$ grn. is safely exhibited hypodermically, and repeated in one hour; after that, 2 grn. additional are administered by mouth, in $\frac{1}{4}$ -grn. doses every two hours, should the emergency require. This bold plan has, in the writer's experience, several times averted impending death, and

enabled restoration practicable. When the circulation has been restored by two or three days' treatment, the advantage is maintained by just sufficient of the remedy to secure permanent results. Skilfully used, this is maintained continuously. A gentleman who, last October, was dying, has taken daily ever since, 2 grn. a day. He now walks to the author's office, a distance of more than one mile, and returns to his home without any inconvenience whatever. After observing the effects of this treatment for years, it can be confidently asserted that *no* hypertrophy of the heart follows; also, that sclerosis of the arteries, not an expression of calcareous infiltration or atheroma, but what may be viewed as an ankylosis, so to speak, frequently disappears. This is due to the fact that the contraction and expansion essential to the calibrating function of the arteries being restored as a result of the action of digitalin, normal functional activity and, consequently, nutrition of the coats is instituted; just as a stiffened articulation, by normal movements, loses its rigidity, so does an artery, similarly affected. The treatment must be practically continuous, because the senile changes having already become permanent are a constantly acting factor in the onward march. It must therefore be constantly held in abeyance, and it can be, just as long a time as the life with which the vital unit of the individual was originally endowed.

Dr. Patton also recently stated at a meeting of the Chicago Society of Internal Medicine, that in aortic regurgitation, where the left ventricle is secondarily involved, it is necessary to give large doses of digitalin German, and that he had frequently given the remedy in doses up to $\frac{1}{2}$ grn. Mention was also made of the case of a lady of 80 years, with atheromatous stenosis, who is taking, with great benefit, $\frac{1}{2}$ -grn. doses of digitalin German.

Ichthyol Internally in Acne

Jessner (*Aerzil. Rundsch.*, VIII, p. 443) states that ichthyol is an advantageous sulphur-preparation which has an excellent influence on the constitution. It is remarkable, he goes on to say, how rapidly patients recover under the use of ichthyol, and how well they feel after taking it. The digestion is decidedly improved, without the ichthyol in any way directly causing diarrhea. The remedy is generally well borne, and although it, at first, causes belching, it is soon tolerated. The author prescribes the remedy in pill or capsule form, or in concentrated solution (equal parts of ichthyol and water), the dose of the latter being

from 20 to 30 drops three times daily. In pills or capsules, the dose given was from 0.3 to 0.5 gme. (5 to 8 grn.) three times daily, after meals. The author also states that the ichthalbin recently introduced as a tasteless, odorless form of ichthyol may be given instead, in doses of 4 gme. (1 dr.), and with similarly good results. F.

Iron Alginate

Alginic acid is a peculiar colloidal substance which E. C. C. Stanford isolated from seaweed. It resembles albumin in some respects, and combines with iron to form an alginate. Dr. William MacLennan, of Glasgow, states (*Chem. and Drugg.*, LIII, p. 123) that iron alginate is a tasteless, brown, insoluble powder, containing 10.92 per cent. of iron. It is best administered in a fine powder. It is soluble in ammonia, but such a solution on coming into contact with the acid gastric juice would be decomposed.

In doses of 10 to 15 grn., thrice daily, Dr. MacLennan employed iron alginate in a number of cases of anemia and chlorosis complicated by functional or organic stomach-symptoms. The alginate was borne well, and even had a sedative action; but when it was withdrawn and the saccharated carbonate substituted, vomiting and pain returned. The alginate seemed to be rapidly absorbed, and a healthy complexion was soon obtained. F.

Suppuration Treated by Sodium Bicarbonate

Brücker has made a study (*Occid. Med. Times*, XII, p. 312) of a fact observed by him—namely, the influence of the reaction of the blood in the healing of certain conditions. Bearing in mind that the normal alkalinity of the blood shows important variations according to sex, age, and as to whether the blood is arterial or venous in origin, and the diet to which the patient has been addicted, so in certain pathological conditions these variations are very marked, and a reduction in the normal alkalinity is observed in certain cases of febrile reaction due to bacterial intoxication. It has been found that certain artificial intoxications can be combated by raising the alkalinity of the blood by the injection of alkaline serum. Going on these grounds, Brücker has principally investigated the influence of alkaline dressings in the treatment of local inflammatory affections, and according to his observations such a dressing, whether moist or dry, very rapidly reduces the inflammation suppurative or otherwise, and causes rapid healing of wounds. This.

seems independent of any antiseptic property in the proper sense of the word. The method employed by him is to apply the dressing of absorbent wool on ordinary principles, using merely a 2-per-cent. solution of bicarbonate of soda, or in some cases vaselin and bicarbonate (1 in 25), or the soda may be applied directly in the form of a powder. He finds that strong solutions do not act more quickly than 2-per-cent. ones, showing that the chief agent is the alkali, and not any antiseptic principle. The same method may be applied for purulent otitis, etc.

Methods of Prescribing Acetic Acid in Skin-diseases

Unna has recently made a large number of very careful experiments on the rate at which preparations containing acetic acid lose this very volatile constituent (*Treatment*, II, p. 373). It is obvious that the efficacy of a preparation will depend very much on the slowness with which it parts with its acetic acid, for an application can have but little effect if the acid has evaporated in a short time. The general conclusions at which he has arrived are as follows: The constituents of acetic-acid preparations may be divided into (a) those which hasten the evaporation of the acetic acid (this group includes all powdery substances—kieselgur is the most active, then comes kaolin; sulphur and flour have a slighter effect); and (b) those which retard the evaporation of the acetic acid (glycerin comes first, then adeps benzoatus, and lastly vaselin). It is possible therefore to vary the rapidity with which the acetic acid is given off by varying the substances forming the base of the preparation, and so the ointment or paste can be suited to the individual case. Unna says he can especially recommend the following preparations of acetic acid:

1—Adeps Lanæ.....	7 parts
Acetic Acid (30 per cent.).....	7 parts
Benzoated Lard.....	7 parts
2—Adeps Lanæ.....	6 parts
Acetic Acid (30 per cent.).....	7 parts
Benzoated Lard.....	2 parts
Kaolin.....	6 parts
3—Glycerin.....	5 parts
Acetic Acid (30 per cent.).....	7 parts
Kaolin.....	9 parts

He also recommends the following "acetic acid and sulphur paste" as very useful in cases of acne:

4—Adeps Lanæ.....	6 parts
Acetic Acid (30 per cent.).....	7 parts
Benzoated Lard.....	6 parts
Precipitated Sulphur.....	2 parts

All these preparations contain 10 per cent. of anhydrous acetic acid, and consequently are strong preparations of the acid. F.

REVIEWS

A Text-book of Materia Medica, Therapeutics, and Pharmacology. By George F. Butler, Ph.G., M.D., Professor of Materia Medica and of Clinical Medicine in the College of Physicians and Surgeons, Chicago. Handsome octavo volume of 860 pages, illustrated. W. B. Saunders, Philadelphia. Prices: Cloth, \$4.00 net; sheep, \$5.00 net.

This second edition of Dr. Butler's work has been revised throughout and brought abreast of the times by introducing the latest information we possess of the physiological effects of drugs. Serum-therapy and the therapeutics of nuclein, untoward effects of drugs and other new subjects have received due attention. The chapters on Diuretics and Cathartics have been materially changed. As the volume now stands it is among the best published and contains about all the information concerning drugs that a medical man usually requires. Its clinical index is very complete and cannot fail to be of great service as an aid to memory in calling attention to the groups of remedies indicated in given diseases and from which the best for a special case can be culled with ease by a well-posted physician. The volume is handsomely bound.

Brief Essays on Orthopedic Surgery. By Newton M. Schaffer, M.D. D. Appleton & Co., New York. 1898.

As the title implies, this little volume is made up of various articles that have appeared in the medical journals during the past fourteen years. The book is composed of seven distinct articles; each has its own particular feature to commend it.

Probably those which will attract especial notice are "What is Orthopedic Surgery?" "The Relation of Orthopedic Surgery to General Surgery," and "The Operative Side of Orthopedic Surgery." The book contains eighty-one pages, all of which are filled with matter of interest to orthopedic surgeons.

A Manual of Modern Surgery, General and Operative. By John Chalmers Da Costa, M.D., Clinical Professor of Surgery, Jefferson Medical College, Phila., etc., published by W. B. Saunders, Philadelphia. 1898.

One of the greatest needs of the medical student of to-day is a work which will come between the lengthy text-book and the abbreviated compend, a book, which, while containing sufficient detail, at the same time is not too voluminous to prevent its being read and appreciated by the overworked medical student. Especially does this want seem to exist in surgical literature, and therefore we welcome the appearance of the second edition of Dr. Da Costa's Manual of Modern Surgery, as it is a book which seems to fit exactly into this midway place of utility. Various changes and additions have been made in this edition of the Manual keeping the book in true accord with its title of Modern Surgery. Among the more important of these additions are chapters on "Wounds Inflicted by Modern Projectiles," "Electrical Injuries," "Use of the Roentgen Rays," and various recently adopted operative procedures.

The arrangement of the book is good, general surgery coming first, followed by the chapters on the more specialized surgery of the regions, and ending with chapters on the Roentgen Rays

and electrical injuries. The use in the individual chapters of large black type for the paragraph headings is also to be commended. The English is, as a rule, clear and concise, and is characterized by the use of numerous short sentences. But in certain parts, especially the chapters on inflammation and its sequelar items, is an occasional use of terms different from the ordinary conception of their meanings, which is confusing and misleading. However, the general idea and get-up of the book is excellent and its merits greatly outweigh its faults.

The illustrations are profuse and are more diagrammatical than artistically beautiful, and consequently are perhaps more illustrative of the ideas they are meant to demonstrate than the photographic reproductions which are so much in vogue in the latest surgical works. This work is confined to general surgery and does not attempt to cover the surgical specialties such as gynecology, diseases of the eye, etc.

We believe this work to be especially useful to students and to those practitioners who desire a book more for study than reference.

A Clinical Manual of Skin Diseases, with special reference to Diagnosis and Treatment, for the use of students and general practitioners. By W. A. Hardaway, A.M., M.D. Second edition revised and enlarged. Lea Brothers & Co., Phila. and N. Y. 1898.

One is always happy to greet an old friend; this is especially true of the second edition of Dr. Hardaway's well-known Manual of Skin Diseases. While our friend is old, it has been so greatly enlarged that it seems to have taken upon itself a new lease of life; for so much that is new has been compressed in the present volume that one can read in its 550 pages all that is essential to the practice of dermatology of the present day.

The first notable change in the present edition is the adoption of a system of classification, which is a decided advantage, making the volume a treatise on dermatology rather than a dictionary, as is the case when the alphabetical arrangement is adhered to.

Another noticeable change is the absence of the list of formulas; this, in a volume of the size of the one under discussion, is unnecessary, for directions regarding diet and remedies are employed extensively in the text.

Many of the illustrations are copied from the works of Dr. R. W. Taylor and have not been improved by the reproduction.

The chapter on hypertrichosis is especially valuable, coming as it does from the pen of a man who is a recognized authority on the treatment of this cutaneous deformity.

The reviewer foresees a greater demand for the second edition than there was for the first; for if the general practitioner wishes to have an efficient guide for the treatment of skin-diseases, he will do well if he can procure a copy of Dr. Hardaway's book.

Its usefulness to medical students has been amply demonstrated, and now its having been brought up to date should be the means of making it a guide-book in all American colleges.

The typographical work is excellent.

Transactions of the Medical Society of the State of New York, for the Year 1898. Published by the Society. 1898.

It is unusual for the proceedings of a society where a large number of papers are read to appear in the same year as the meeting occurs.

That the secretary was able to get this volume out so early shows that he has not neglected his duty, and a glance through the minutes of the meetings shows that he has done or had done the editing with great care. The Albany meeting was evidently a very interesting one, judging from the large number of valuable papers read and the freedom with which they were discussed.

Hay-Fever and Its Successful Treatment. By W. C. Hollopeter, A.M., M.D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia. Publishers, P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. 1898. \$1.00 net.

Dr. Hollopeter has in this little volume gathered together references to most works on the subject of hay-fever that will be of great value to those wishing to make an extensive study of the subject. His chief aim in getting out to work was to give his method of treatment that he claims he has used with invariable success for the last ten years on over 200 patients. He discusses the various theories of the etiology of the diseases but confesses his inability to say which if any is right. He fully considers the predisposing causes, the time of occurrence, the duration, the symptoms, the complications, the pathology, the diagnosis and the prognosis. The volume is neat in size and appearance, while the type, paper, and binding are excellent.

The Essentials of Histology, Descriptive and Practical for the Use of Students, by E. A. Schäfer, LL.D., F. R. S., new fifth edition, revised and enlarged, with 392 illustrations. Lea Brothers & Co., Philadelphia and New York. 1898.

Users of Quain's Anatomy have always studied with much profit the histological chapters contributed by Schäfer, and it is a privilege to obtain these same chapters rewritten and enlarged in a single volume devoted exclusively to the one subject.

The work is divided into lessons, forty-six in number, the entire human body being studied. At the beginning of each chapter there are a few short paragraphs of practical instruction on the best methods of obtaining and treating the tissues to be studied. This is, we believe, a better plan than that which groups all of this class of work in an appendix. But little may be said to be exactly new in histological science save the facts relative to the nervous system. Here the modern researches have demonstrated new structures hitherto unknown. The author has presented these newer observations carefully and completely and has brought this present edition well into line with present knowledge. The work is well illustrated and is certainly an excellent histology. The mechanical work on the book leaves little to be desired.

It is reported that yellow fever has invaded fourteen counties and seventeen towns and cities in Mississippi. Mails have been interrupted, railroads have stopped running, and there has been a general embargo on business and travel all over the state. There have been some infected places in Louisiana, but, outside of New Orleans, the cases of fever can almost be counted on the fingers. With all the obstruction to commerce and with all the excitement and alarming reports in the affected territory, there is a marked disproportion of fatalities.

CORRESPONDENCE

THE HEALING ART

A Plea for Investigation of the Different Systems of Medicine

To the Editor of the A. M.-S. BULLETIN:

What a diversified system it is, that comprises the healing art?

There are the allopaths, or regular school of medicine, of which system I am a graduate. They investigate, it is true, and claim everything in sight, so to speak, but is it entirely borne out by facts?

If we listen to the homeopaths, they also clamor for recognition, for they also record great successes with their system of treatment of diseases. If they are entitled to the achievements they claim, then let us be fair and the allopathic school can afford to make note of it. for, "a science knows no creed," and truth must prevail. So it is with all pathies and isms, if there is anything in any of them that merits recognition. I think medical investigators ought to point it out. The regular school could not disbar facts from its plan of teaching. Investigations carried on by men who have studied these different systems of medicine, in a dispassionate manner, would certainly help to elucidate matters and bring us to conclusions which will probably result in untold good; it certainly will bring about a better general understanding in the profession and also a better fellow feeling.

In every edition of our journals we read of new bacilli being discovered. I am heartily in favor of all these investigations, so that there may be light, but gentlemen of the medical press, if you follow nothing but the bacillus theory it will have an obtunding effect upon the mental vision of your readers. I consider the healing art of wider range than above cited tendencies. We ought to be retrospective as well as prospective, that we may learn by comparison from our older colleagues their observations on the causation, behavior, and the treatment of the respective diseases. I can not refrain from mentioning one more system pertaining to the healing art, the psychical treatment of disease, or suggestive therapeutics. The medical press of this country has kept very silent on this question, although the savants of Europe have been agitating it for years. Teachers of medicine can not afford to shut their eyes to such momentous questions of psychical research, they ought to investigate this system in a fair, unprejudiced manner and study psychology until they have grasped the question at issue, so as to be able to put this theory into practice, for if there is any truth in it, it must come out, sooner or later. If the investigations prove as successful as the scientists of Europe have us to believe, it will do wonderful good for all habits, etc., in fact will revolutionize the practice of medicine.

My appeal to the medical profession of America is to investigate all systems of medicine, of whatever name, so as to arrive at some healthy conclusion, with the hope that some day we may bring about some universal system of medicine. Let the therapeutics means be, whatever they may, so they result in the most common good, and we be worthy disciples of the healing art.

J. GLAHN, M.D.,
Owensboro, Ky.

How to Make Kumiss

The *Dict. and Hyg. Gazette* (August, 1898) gives the following directions for the preparation of kumiss:

Fill a quart champagne bottle to the neck with pure cow's milk; add two tablespoonfuls of white sugar, first dissolving it in a little water by the aid of heat; add also a quarter of a two-cent cake of compressed yeast. Then securely fasten the cork in the bottle and shake the mixture well; place it in a room having a temperature of from 70° to 80° F. for six hours, and finally in the ice-box for about twelve hours. It is then ready for use, and may be taken in quantities varying with the requirements of the stomach and general condition of the patient. The bottle should be opened with great care, on account of the effervescent properties of the mixture, and the latter should be discarded and not drunk at all if there is any curdle of thickened masses resembling cheese, as these indicate that the fermentation has been prolonged beyond the proper time. It should be prepared as required for use. The virtue of kumiss resides in the fact that it nourishes, refreshes, and stimulates with no subsequent reaction from its effects. Kumiss contains some alcohol, with fat, casein, lactic acid, and carbonic-acid gas. The cost is about fifteen cents per quart, including the bottle. S.

Cassaripe, a New Remedy for Corneal Ulcers

Dr. Risley (*Med. Age*, Vol. XVI, No. 17, 1898) reported his interesting experience with cassaripe as a useful remedy in the treatment of corneal ulcers and infectious diseases of the conjunctiva. His attention was called to this drug by Dr. H. B. Chandler, to whom its employment was suggested by its use in the tropics for the preservation of meats. Two varieties are cultivated, from the bulbous root, which contains farina in abundance. This is obtained by grating the root to a pulp, after which the poisonous juice is expelled by pressure and washing. The starch-product forms the cassava-bread of the tropics, while the juice is reduced by boiling to a syrupy liquid, which forms the basis of the West-Indian pepper-pot, used extensively as a condiment by the natives. When poured over meats it preserves them almost indefinitely from putrefaction. This prepared juice is known as "cassaripe" or "cassareep."

The method adopted for the use of cassaripe as a therapeutic agent was in the form of a 10-per-cent. ointment, vaselin being used as an excipient. S.

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is no longer in our employ, and is therefore not empowered to make collections or to solicit subscriptions for the American Medico-Surgical Bulletin.

Our readers will please bear this in mind.

THE BULLETIN PUBLISHING CO.

EDITOR'S NOTES

The medical men of Berlin are seeking from the police commissioners the privilege of disregarding the regulations governing bicycles in the crowded business streets and those limiting the number of passengers that street-cars shall carry. They claim that in their emergency-calls lives may be sacrificed by the delays that these police regulations often cause. It might be advisable for medical men in this country to seek exemption from some of the restraints that interfere with the hasty performance of duty. During the passage of processions and in crowded streets doctors going to see patients should have the right of way. When making calls on bicycles they should be permitted to ride on side-walks that are not being used by many pedestrians and where

the roads are too bad for quick riding. In view of the Berlin move the editor of the *Medical Press* has suggested such action by English doctors. He says that "nothing is more irritating than to have to obey the surly behest of the constable who bars the way when one is already late for an appointment or to meander at a snail's pace along a rough road when the foot-path lies idly by. Is there no Medical Cyclists' Association to attend to this?"

We note the fact that the antivivisection and antibacteriologist organs are all denouncing the bacteriologists for the dangers to which they expose the community by their experiments, and citing the Vienna laboratory and its introduction of the plague into Vienna as a case to the point. We never had much appreciation of or belief in the consistency of these foes of science. They do not seem to know what it is to be logical or consistent. Their cry hitherto has been that bacteria are materially a consequence of disease and not a cause. According to them microbes are but scavengers, having as a duty the removal of diseased and decayed tissue, but never causing disease or decay. If the former contention of the antibacteriologists is true then the germs from India had nothing whatever to do with the plague in Vienna. The two attitudes are absolutely irreconcilable. Those who deny the truth of medical bacteriology should try to explain how the plague began in Vienna. What caused it if not bacteria?

The question of expert testimony is still exciting a good deal of attention throughout the country among both doctors and lawyers. The best and most reasonable discussion of the subject that we have lately seen is that which occurred at a late meeting of the New Hampshire Medical Society, between Prof. E. J. Bartlett, of Hanover, and Mr. J. H. Albin, a lawyer of, we presume, the same place. Both these gentlemen have evidently studied the subject in all possible phases and have earnestly sought for the best. In this, as in every other problem in sociology, the only way to get at the truth is to weigh all sides candidly pro and con. Every conceivable method of settling the question has its shortcomings as well as its advantages when viewed theoretically. The one thing to decide is which will give a maximum of advantage and a minimum of disadvantage? Dr. Bartlett seeks to choose that one, and we think he has done so correctly. Every physician interested in the subject should send to him for a reprint of this interesting debate.

PUBLISHERS' DEPARTMENT

THE BATTLESHIP WISCONSIN

Will be launched in San Francisco, Saturday, November 26. The official train carrying State officials and the christening party will start from Marinette, Milwaukee, and Chicago, Saturday, November 19, going via the Chicago, Milwaukee & St. Paul Railway. Stops will be made at St. Paul, Tacoma, Portland, San Francisco, Los Angeles, and Denver. Pullman palace sleeping-cars, dining-cars, observation-cars for the exclusive use of the party for the entire trip, under the direction of Mr. Reau Campbell, General Manager of The American Tourist Association. A limited number of tickets at reduced rates covering all expenses, will be sold; they include railway and sleeping-car fares, meals in dining-cars, hotels, carriages, etc. For details address The American Tourist Association, 1124 Marquette Building, Chicago.

IMPROVED ANTITOXIN TUBE

The newest container for antitoxic serum is what is termed the Improved Antitoxin Tube, which combines all the advantages of both vials

and bulbs without any of their disadvantages. In addition to this it possesses valuable features found in neither vials nor bulbs. When the improved antitoxin tube is used drawing the serum into the syringe is not necessary. The accompanying cut shows how the syringe is charged by gravity.

The syringe is aseptized and adjusted for use and the needle-end unscrewed as if to introduce a tablet. The point of the capillary prolongation of the tube is broken off and the tube held, broken end down, over the syringe while the stopper is removed. The serum flows into the syringe by gravity. The last drop is expelled by replacing the stopper. This in itself is an enormous advantage over all other methods of filling the syringe and easily makes the tube the best container ever used for antitoxic serums. The tube was devised and is now being employed by H. K. Mulford Company.



HAWAII AND THE PHILIPPINES

Send four cents (in stamps) for an illustrated booklet issued by the Chicago, Milwaukee & St. Paul Railway, the direct route across the American Continent to the New Trans-Pacific possessions of the United States. Full of latest reliable information and valuable for reference. Can be used as a text-book in school. Address William Kelly, Jr., G. E. P. A., 381 Broadway, New York.

HAGEE'S CORDIAL OF COD-LIVER OIL

"A preparation of cod-liver oil, combining palatability with reconstructive properties, is one of the vexatious problems of the day. None equals Hagee's Cordial of Cod-liver Oil Comp. in this particular. It is all that the manufacturers claim for it, and I can heartily endorse it.—C. H. Powell, A.M., M.D., Profes-

sor of Physical Diagnosis and Clinical Medicine, Barnes Medical College, St. Louis, Mo.

NEUROSINE IN EPILEPSY

The following letter was received by the Dios Chemical Company, St. Louis, Mo.: "I have been using Neurosine in my practice for some time in all Nervous Disorders with the happiest effect. I regard it as the very best preparation for that dreadful malady known as epilepsy. Physicians can prescribe it with greatest confidence in all nervous troubles."—George R. Duncan, M.D., Fall Branch, Tenn.

AN ASEPTIC SYRINGE

Dr. N. Allen Heaton, Washington, D. C., writes to Sharp & Dohme as follows: "S. & D.'s aseptic syringe has been adopted by the surgeons of the New York Hospital. It is far superior to any upon the market, and will do more to assist and advance hypodermic medication than any single improvement of which I am at present aware."

REPORT OF FOUR CASES FROM ST. MARK'S HOSPITAL

Mr. A. O., age 24 years, salesman. Came to hospital on September 3, with typical case of typhoid fever about the end of the first week. Temperature reached past 106° on September 12, and reached the normal, morning and evening, on September 24. On September 12 patient had a severe intestinal hemorrhage, passing about one and a half pints of blood and clots. Was put on carnogen during convalescence. The accompanying chart shows increase in hemoglobin and red corpuscles.

Date	Red Corpuscles	White Corpuscles	Hemoglobin. Per Cent
October 5, 1898.....	3,390,000	5,500	57
October 16, 1898.....	4,520,000	5,500	65
October 22, 1898.....	4,600,000	5,750	78
October 29, 1898.....	5,200,000	7,000	86

(Signed)

CHAS. I. BUDDEKE,
House Surgeon.

Mrs. Mary H., age 29 years, housewife. Brought into hospital with a well-marked case of typhoid. About end of first week temperature-range, 103° morning to 105° evening rise. During latter part of second week patient had three severe hemorrhages passing about Oiii of free blood and clots. Convalescence began latter part of fourth week and temperature touched normal on evening on twenty-ninth day. On thirty-fourth day temperature began to rise and patient had a relapse, lasting three weeks. Patient was very much wasted and first examination of blood showed very anemic. Was put solely on carnogen as a tonic, and accompanying chart shows remarkable increase in hemoglobin and red corpuscles.

Date	Red Corpuscles	White Corpuscles	Hemoglobin. Per Cent
October 5, 1898.....	3,970,000	5,550	53
October 15, 1898.....	4,170,000	7,000	60
October 22, 1898.....	4,600,000	9,000	87
October 29, 1898.....	4,900,000	8,500	93

Fritz, W., age 25 years, waiter. Convalescing from malaria; very emaciated and anemic. Was put on carnogen, and accompanying chart shows increase in hemoglobin and red corpuscles.

Date	Red Corpuscles	White Corpuscles	Hemo- globin. Per Cent
October 5, 1898.....	2,500,000	12,500	83
October 15, 1898.....	3,100,000	13,000	75
October 22, 1898.....	3,700,000	10,750	85
October 29, 1898.....	4,200,000	9,000	94

(Signed) CHAS. I. BUDDEKE,
House Surgeon.

Mrs. C., Italian, 28 years. Admitted to hospital September 25, complaining of severe pains in lower part of abdominal cavity and profuse hemorrhage from uterus. On examination, under ether, boggy tumor found in pelvis. Puncture was made through posterior cul-de-sac and Oiv of blood and clots turned out and remnants of fetus and membranes, loosely packed with gauze iodoform; six hours later patient had severe hemorrhage, and packed with gauze and sand-bags applied to lower part of abdomen. The hemorrhage ceased and packing was changed daily and cavity obliterated by granulation. The amount of hemorrhage in this case was profuse. Patient was very anemic; was put solely on carnogen as a hematinic and the improvement in the patient as shown by the accompanying blood-count was remarkable.

Date	Red Corpuscles	White Corpuscles	Hemo- globin. Per Cent
October 5, 1898.....	3,300,000	9,260	39
October 15, 1898.....	4,290,000	8,000	49
October 22, 1898.....	4,500,000	7,500	57
October 29, 1898.....	4,800,000	8,000	72

(Signed) CHAS. I. BUDDEKE,
House Surgeon.

NEWS

The Springfield, Maryland, new insane asylum for women will, when completed, be in charge of female physicians only.

The Vermont State Medical Society held its eighty-fifth annual convention at Brattleboro on October 13 to 15. Dr. S. E. Lawton, of Brattleboro, was elected president for the coming year.

The State Medical Association, of Texas, has through its committee, of which Dr. R. H. Harrison is chairman, begun the preparation of a bill for submission to the next Legislature, creating a State Board of Health.

Surgeon-General Sternberg gave a lecture on bacteriology before the Vermont Sanitary Association, at Montpelier, on October 25. The hall was crowded, many being unable to gain entrance. The address closed with a stereopticon exhibit of germs.

In the census year 1891 the death-rate in New York city (Manhattan and the Bronx) was 26.45 deaths for every 1000 inhabitants. In 1896 the rate had fallen to 23.21, in 1897 to 20.15. Up to October 15 of this year it was only 19.87.

The tenth annual convention of the Alabama, Georgia and Tennessee Tri-State Medical Society met in Seal's Hall, Birmingham, Alabama, on October 25 to 27. Dr. J. A. Goggins, of Alexander City, Alabama, presided. The papers read were numerous and interesting.

New Jersey has over 1000 epileptics to be cared for by the state. A new farm for them has been prepared in a beautiful valley in Sourland Mountain. It contains 187 acres, and another tract of 213 acres adjoining will likewise be purchased for their use.

Dr. Clifford Allbutt, the distinguished pro-

fessor of medicine at the University of Cambridge, England, delivered an address on Medicine of the Nineteenth Century, at Baltimore, Md., at the opening of the sixth scholastic year of the Johns Hopkins University Medical School.

A physician has been appointed at a salary of \$1700 per year to examine the letter-carriers of the Chicago post-office and see that they get no sick-leave unless really sick. The government expects by this arrangement to save in letter-carriers' salaries more than enough to pay the doctor.

Dr. James H. Shawe, of Cold Spring Harbor, N. Y., was lately prosecuted by the State Board of Pharmacy because he had confessed on another trial that he had put up prescriptions in a drug-store. Not being a licensed pharmacist it was thought that he could be punished for this, but the court held that he had committed no offense and dismissed the case.

Colonel Waring, well known in New York city as the only gentleman that for many years succeeded in keeping the streets of that city clean, not long ago took a trip to Havana, Cuba, to see what could be done for that pest-hole. While there he was exposed to yellow fever, and on his way home was taken with the disease. A few days ago he died of it, and to avoid its spread the premises were thoroughly disinfected and his body cremated.

Dr. W. A. Tims has resigned from the faculty of the Cleveland Homeopathic Medical College, and become a student and candidate for the degree of M.D. in the College of Physicians and Surgeons connected with the Ohio Wesleyan University. He says there are nine other homeopaths of that city going to quit homeopathy and join the ranks of the regular profession. Dr. Tims has been in practice since 1888.

The Cleveland Medical Society had the pleasure of listening to a lecture from Dr. J. B. Murphy, of Chicago, on his new method with tuberculosis, on Friday, October 26. On Saturday there was a clinical demonstration of the method. Dr. Dudley P. Allen refused to permit the use of his patients in Lakeside Hospital for the clinic, as he had never seen Dr. Murphy operate, and did not wish to take any chances with his patients.

The Vermont Legislature passed a bill on October 26 providing for the erection and equipment of a state bacteriological laboratory. The *Rutland Herald* says of this bill: "It passed the House easily, but was made the special order in the Senate to-day, and there were many who thought it would be amended there and sent back, and there was doubt if it would have passed so easily again. For a Vermont legislature to vote so much money with so little debate or opposition is almost a miracle, and shows what careful management will do for a bill.

The Knights of Pythias are now seeking to raise a fund of \$500,000 for their proposed new sanitarium at Hot Springs, Ark. They have now a fund of \$12,000 on hand and are considering the advisability of assessing all the members in the United States one dollar each so as to raise the desired amount. Some of the leading men think that within two years they will have \$350,000, and within five years the total amount required. They declare that when finished it will be the finest sanitarium in the world.

The following officers were elected at the Nashville meeting of the Mississippi Valley Medical Association: President, Dr. Duncan

Eve, Nashville, Tenn.; first vice-president, Dr. A. J. Ochsner, Chicago, Ill.; second vice-president, Dr. J. C. Morfit, St. Louis, Mo.; secretary, Dr. Henry E. Tuley, Louisville, Ky. (111 W. Ky. St.); treasurer, Dr. Dudley S. Reynolds, Louisville, Ky. The next meeting will be held in Chicago, October, 1899, on a date to be determined by the executive officers and Dr. Harold N. Moyer, the Chairman of the Committee of Arrangements.

The inhabitants of Vienna, Austria, have lately been thrown into almost a condition of panic by the occurrence among them of several cases of bubonic plague. The virus was brought there from Bombay for experimental purposes, and by lack of sufficient care on the part of the porter who had charge of the animals, he was taken with the disease and died. The doctor in charge of the laboratory, who attended him during his illness, also took the disease and died. All the animals that had been inoculated were killed, and their bodies burned. The undertakers who prepared for burial the human victims had to swathe their hands and arms in antiseptic cotton, and the priest who administered the ante-mortem sacrament had to do so through a window from the outside. He was not permitted to enter the room.

Dr. W. Washbourne, at the recent meeting of the New York State Association, took the ground that mendicancy is a disease, and he expressed his belief that among the many causes of poverty is the obtaining of relief given by private charities, individuals, and from private funds. The initial cause is usually the dispensary. "We as physicians," he said, "are largely responsible for the increase of pauperism. Statistics from the controller's office show that now nearly four times as much is spent per capita per year as was formerly done for the care of paupers. If we could trace the history of our dispensary patients we should find in many cases that this was the first form of relief which they received. It teaches them to be dependent; it teaches them that things may be had for nothing. They go from the dispensary to some society that helps them in rent; they go from that to another which helps them out in groceries, and end in being complete dependents."

The Grand Rapids Press of October 15 says: "The physicians of Michigan promise to introduce a new phase in congressional politics for the approaching election. In their work they will keep their eyes very closely upon John B. Corliss, representing the First district of Michigan, because, it is charged by the doctors, Corliss fought a measure in Congress that the doctors have been trying to have made law for the past five years. Not only Corliss, but all congressional candidates of both parties will be asked to put themselves on record on this question, with the purpose of having the men in the medical profession support only those that return favorable answers.

"What the physicians are after is the establishment of a national department of health, the head to be a cabinet officer, this department to see that laws uniform all over the country are enforced in each state, so that the present clashing of authorities and looseness about conducting health matters may be done away with, and the public health be better conserved.

"The Wayne County Medical Society has had a meeting at which a committee was appointed which will see to it that every congressional candidate in Michigan is asked, either person-

ally or in writing, to take a stand on the bill which the doctors have been trying to push through Congress."

The medical department of the University of California held its first opening exercises in its new home, south of Golden Gate Park, San Francisco, on October 22. Several of the regents have expressed their desire to see the medical department of the State University become the leading medical school of this country. Some time ago a joint committee, consisting of three members of the Board of Regents and the same number of representatives of the medical faculty, were appointed to devise ways and means and arrange a plan for the remodeling and improvement of the medical department. It is understood that this committee has entered into correspondence with Johns Hopkins Medical School, in order to ascertain the plan of operating that institution, and the cost thereof. It is also said that eminent men in various lines of work will be sought for to fill the faculty chairs, and devote all their time to the college work. The new building is well provided with room for laboratories of all sorts, but for these to be of any value it will be necessary, in the opinion of the joint committee, that the chiefs of these laboratories be given sufficient salaries and that they be required to give all their time to the work.

Prof. Burt G. Wilder, the well-known anatomist of Cornell University, is anxious to secure normal brains for scientific measurements and study. The professor has been mailing circulars to many leading scientific, medical and philosophical men, as well as university students, asking them to bequeath their brains for this purpose as soon as they have themselves got through with them. He says it is easy to get the brains of criminals and degenerates, but difficult to get those of the men and women he is most anxious to secure. The following form of bequest has been circulated among the students of Cornell:

I,....., now of..... student of Cornell University from....., 18.... to..... 18.... and graduated in 18...., recognizing the need of studying the brains of educated persons rather than those of the ignorant, criminal or insane, in order to determine their weight, form and fissural pattern, the correlations with bodily and mental powers of various kinds and degrees, and the influences of sex, age and inheritance, hereby declare my wish that at my death my brain should be intrusted to the Cornell Brain Association (when that is organized) or (pending its organization) to the Curator of the collection of human brains in the museum of Cornell University, for scientific uses, and for preservation, as a whole or in part, as may be thought best. It is my hope that my family and friends may not oppose the fulfillment of this my earnest wish.

Signature

Date

Witness

NOTE.—Copies of provisional diagrams of the fissures will be mailed upon application to the undersigned. For a brief statement of reasons for the study of the brains of educated persons see Buck's Reference Handbook of the Medical Science, VIII, 163, and IX, 110.

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EDITORIAL

EXCESS OF CLINICAL TEACHING

IN a recent editorial we discussed the danger which to our thinking threatens medical education in America through the invasion of the curriculum by the specialists. To-day we desire to say something concerning what appears to us also an excessive growth in a different direction.

When we studied medicine there was practically no clinical instruction. To be sure, two or three times a week the student was required or more generally allowed to attend public lectures upon cases of disease, but never did he come in contact with the sick, no opportunities were afforded him to see an obstetrical case, and no training was given him in practical physical diagnosis, or in learning to handle a sick patient, nor was opportunity afforded him in any other way to make himself really familiar with what was to be the chief occupation of his future life. To-day all this has changed, with an immense advantage to the student of medicine. There is, however, a possibility of there being too much even of a very good thing, and the tendency which is exhibited in some institutions to supplant didactic by clinical instruction seems to us to threaten injury. Perhaps in Vienna and some of the other large capitals of Europe,

in places in which the central city furnishes the hospital facilities for a whole country, and in which human misery is so abundant that immense masses of clinical material are thrown into the hospital, clinical instruction may be systematic. Nowhere, however, in the United States at present can it be so. The clinician must lecture on the subject which at the time being is represented in his ward or dispensary. Only, however, by a systematic well-considered course of study is it possible for a student to get a complete rounded knowledge of a subject.

Just at this point it seems necessary to say a word in regard to the use of terms, as there is in America a widespread failure to apprehend the nature of true clinical teaching. A very large proportion of the so-called "clinical" lectures, as delivered in the various amphitheatres, are instances not of clinical, but of didactic teaching; teaching which differs from that in the lecture-room of the medical hall only in the fact that one or more cases are used—instead of diagrams, alcoholic specimens, or wax casts—for the illustration of the facts didactically stated. The only advantage that such a lecture in the clinical amphitheater has over that given in the medical hall is that it is somewhat more forcible because human flesh and blood make a more vivid impression on the ordinary human sensorium than do white paper and black or colored paints, or even the most beau-

tiful casts. Essentially, didactic is, however, such so-called clinical teaching.

In the true clinical teaching the individual patient, not the disease from which he suffers, is discussed; the symptoms of the case are first brought forward, and when possible their existence demonstrated to the student. Then from these symptoms the diagnosis is made, and the reasons for that diagnosis given. After this has been done the question of prognosis in regard to the individual case is discussed, and then the treatment comes under consideration. In such proper clinical teaching the instructor applies his systematic knowledge to the case immediately in hand, and follows out before his class, only probably more in detail, the course of observation and of reasoning that he would go through to himself in his own consulting-room. The case is lectured upon and not the disease. Now, it is obvious that to appreciate such teaching properly the student himself must have a knowledge of the fundamental facts of medicine. He ought to be able to think with his professor, to supply perhaps lacunæ in the professor's argument, to appreciate the brilliancy of such argument and to perceive in some measure its fallacies. In making such a study of the case the student will learn much more if the professor, by asking questions of the student, forces him to think with, or perchance to think instead of, the professor. The probabilities are that the average students of a class will all think alike, and by the system of questioning not only is the attention of the students maintained, but also the fallacies in the thinking of the young students are made plain not only to the professor and the student immediately interested but also to other members of the class who take part in the conference.

It seems to us so plain that we cannot understand the widespread failure on the

part of medical teachers to appreciate that the ideal system of education is first a systematic training of the medical student in the general knowledge of his science and art, and then a particular training in the application of that knowledge to the diagnosis, prognosis, and treatment of individual cases. One reason that didactic teaching in America has fallen into such disrepute is the exceeding badness, according to our thinking, of much of the didactic teaching by justly celebrated men. Over and over again we have seen excess of knowledge on the part of a professor really ruin him as a teacher. Many a military intellect can marshal and manage five thousand men, but fails in the handling of one hundred thousand men. In a similar manner a very learned professor, without the mental power to see facts in true perceptive or the self-control to forbid any attempt to display his great knowledge, is often lost in the multitude of the facts which crowd into his memory. We have watched course after course in which even in two years the professor has failed to cover the whole ground of the practice of medicine in his lectures; whereas a proper course for the student would be one in which the whole subject is outlined without detail in a single eight months' session. It is certainly possible to do this; the student comes, or should come, to the lecture-room with a knowledge of pathology, so that no time need be lost in speaking of this portion of the subject except in the most cursory review. The whole course should be really a series of connected charcoal sketches, each giving the mere outlines of a medical picture, drawn with a firm bold hand, drawn so vigorously that even the inattentive student cannot altogether escape from the impression. In our opinion so soon as a professor of medicine begins to rely upon written notes that are more than head-

lines, he begins to make himself unsuited for the chair which he holds; such notes ought to be forbidden in the lecture-room, and in the ideal school their appearance would lead to the dismissal of the professor. The man who cannot remember when he enters the lecture-room all about the practice of medicine that it is necessary for him to teach, is certainly unfit for the position which he holds.

In a very recent address, Professor von Ziemssen, of Munich, says: "The idea that the clinic can replace systematic lectures is absolutely foolish, but unfortunately it is very common among the student youth; and on the other hand, the studies at home can never replace the spoken words, all the less if the latter are illustrated by demonstrations with figures, systematic drawings, models, etc." Even more unfortunately the "absolutely foolish idea" in America seems not only to be common among the student youth but to be becoming very widely upheld by clinical teachers of renown who ought to know better. It is, of course, possible to teach the systematic outlines of medicine out of text-books by means of recitations, but certainly if the teacher has the knowledge and ability to teach, the student can learn from personal teaching much more rapidly and with much less of personal labor than he can from reading text-books at home; and after all the text-book, unless in the hands of an extremely brilliant student, must often require explanation and enforcement. To quote a recent writer (Professor M. A. Crockett), "Text-books in medicine are not written from a teaching point of view nor are the topics arranged pedagogically. Subjects which should be taught in close relationship often are separated by hundreds of pages and treated in a manner either too brief or too discursive. There are few more wearisome exercises than those recitations which con-

sist of attempts to drag from the student the facts contained in a certain number of pages of a text-book." There is no teaching that is equal to the personal teaching, and when we speak of didactic lectures we do not necessarily mean the formal lecture of the past but a lecture in which the speaker comes in closer personal contact with the person who is taught, and occupies at least a portion of his time in questioning the student on the matters which have been considered.

A student who has been properly taught in the didactic manner comes to the clinic-room with a fund of elementary knowledge at his disposal which enables him to follow the clinical discussions by the master and little by little from such clinical discussion to fill in the details of his knowledge which have been of necessity lacking in his original teaching. To use a metaphor, didactic teaching should have for its object simply the erection in the sensorium of the scholar of the frame-work of the building whose finer parts and ornamentation—in other words the details of whose construction—should be completed through actual contact with disease as it exists in Nature, in the clinic and in after-life in the consulting-room, the sick-chamber and the hospital.

THE QUARANTINE FETISH IN THE SOUTH

SOME of the Southern States have again passed through a siege of senseless panic over a mild invasion of yellow fever. The actual death-rate shows it to have been no more serious than an epidemic of measles or scarlet fever and not nearly so bad as the invasion of typhoid fever endured by our soldiers. From first to last there has been nothing to indicate the necessity for any great terror on the part of the people of the states affected. The mere name of yellow fever

has acted upon them in such a manner as to produce a condition akin to hysteria. Even the governor of a Southern State is said to have run away from his capital and sought a secure place of hiding from the imaginary menace. On the appearance of the first case it is alleged he made the excuse to his friends that he was going to a Confederate reunion to make a speech when in fact he was going into hiding with his family. Unfortunately for him the people of the town heard that he was from an infected region and asked him to move on. He did so going next to his place of birth, but the Board of Health of the new retreat was no respecter of governors in such cases and ordered him out of the town of his birth. From there he betook himself and family into the pine woods and the State officers had great trouble in finding him to get his signature to some important State papers. As an outcome of this adventure he has been the butt of ridicule among the newspapers. But in this conduct he but manifests the feeling of fear common among his neighbors.

We know full well that there is an abundance of brave, courageous people in that region, but the thoughtless and cowardly have for two summers had their way and as a consequence the most unhumane and unchristian methods have been practised on innocent travelers upon the plea of self-protection. They have disregarded all law and violated all personal rights, placing the methods of barbarism ahead of those of civilized communities. They have multiplied discomfort, hardship, and annoyance for themselves and others under the deluded notion that they were protecting themselves from contagion. They have checked business and made the lot of the poor whom their methods have thrown out of work one that is truly pitiable. They have nothing to show for all this but an absolute breakdown of their nonsensical theories. The fever has

spread in spite of all they did. The so-called "air-tight quarantines" that they declared would surely keep out the disease have shown no more evidence of ability to guard against its spread than the petitions sent up in India, through praying machines, guarded against plague.

Even Southern journals begin to see this and speak of it as "The Quarantine Folly." As a single illustration of the outrages committed the *Memphis Scimitar* of October 5 contained the following statement:

Men, women, and children, unprovided with permits from the Board of Health of Memphis to enter the city, are obliged to leave the train at Bridge Junction; no provision for their comfort or protection is made by the railroad or by the Memphis authorities; shelter from the rain may be had in the station-house, and persons obliged to remain overnight are obliged to sleep on the floor or sit upon a hard bench; for food they are dependent upon a negro woman, who does the best she can; many persons have been sleeping on the floor of the station for a week or ten days; a woman and two children were lately obliged to walk a mile in the rain along the railroad track to a farmhouse; the bridge operator took pity on them and acted as escort; the operator and station agent are the only white persons at the station, which is the daily resort of a motley crew of negroes.

Even country roads were guarded by men with shotguns to keep back travelers. Trains were not allowed to stop and let off passengers. Why through trains were permitted is a mystery as they might have carried contagion into the streets. Unfortunately many cases of quarantine of this kind are illustrations of "locking the stable-door when the steed is stolen." When a neighboring State has a case come to light there may have already been exposure of the whole community, and if travel has come in from that State the seed has been sown prior to the establishing of quarantine. But even if this were not the case, no quarantine is reliable that permits birds,

flies, rats, mice, dogs, cats, or living animals of any kind to cross from the infected region. No city can ever have an air-tight quarantine as long as it does not preclude the possibility of the entrance of anything, living or dead. As it is simply impossible to keep out all outside life and outside merchandise it is necessarily impossible to keep out the germs of any contagious disease in such a manner.

We have not learned that any of the quarantined places stopped the United States mail and forbade the delivery of letters. To be logical they should have done this.

New York was exposed through Montauk Point more than any other large city in the nation. It is even known to have had at least one death from this disease and that too long before the advent of the first frost. No new cases have appeared and no one seemed to be seriously afraid of this one. Of course the danger is not as great in this city as in a Southern one, but the difference is only one of degree. With one-tenth of the exposure we have had, a Southern city would have been in mortal terror of the consequences, and yet there is no reason for believing that New York is by virtue of location, merely, ten times more secure from yellow-fever ravages than Memphis or New Orleans, were the same controllable sanitary conditions present in each.

The lesson of Santiago is one that must tell against the fetishistic tendencies of our Southern States in this matter of quarantine. It shows how proper sanitary measures can accomplish what shotgun quarantines miserably failed in. Let those regions that fear this scourge spend one-half the money they now lose in damage to business upon proper sanitary measures, and let the Boards of Health keep under their scrutiny every case that appears, so as to perfectly isolate it and there need be but little apprehension of grave danger from any disease of this sort.

AMONG THE EDITORS

THE LAWYERS' WAY AND THE DOCTORS' WAY

When a boss politician seeks to coerce judicial action and punish judicial independence, the professional body of his fellows, in recognition of the insult to the guild and to the public, quickly get together and put in effect a clear-cut machinery to punish the impertinence and prevent the public mischief. When a medical school acts as a diploma-mill; when bogus diplomas are offered for sale in numerous public advertisements; when nepotism and yellow journalism try to scapegoat their sins on medical men; when newspaper doctors exploit their own fame in the daily papers; when the laws of our country are dictated or disobeyed by multi-millionaire nostrum-syndicates—what does the medical profession do? Nothing!—*Phil. Med. Journal.*

CHRISTIAN SCIENTISTS, CONSCIENTIOUS OBJECTORS, AND PECULIAR PEOPLE

The three classes above mentioned agree in the fact that they are in a state of open rebellion against the teachings of modern scientific medicine. To assume an attitude such as theirs involves a vast amount of responsibility, not only as regards the safety of the individual, for which he alone is answerable, but also for that of others, especially children, whose judgment in the matters at issue necessarily goes by proxy. As every one knows, a recent prosecution of Peculiar People for neglecting to call in medical aid to a sick child has broken down through the failure of the jury to agree. It is beyond a doubt that their persistence in trusting the treatment of illness to the laying on of hands by an elder results in the loss of many innocent lives, and in that way amounts to technical manslaughter. In the same class of persons who work that kind of mischief through sheer ignorance and perverted judgment may be placed the so-called "Christian Scientist." Recently *Truth* has taken up the subject and related the case of a child who died under the ministrations of a "healer." Two months after-

wards the mother attempted suicide, and a month later the grandmother drowned herself, the latter death being followed by a more successful attempt on the part of the mother. *Truth* apparently attributes the suicides to remorse at the death of the child, but it seems more likely to have been an expression of insanity of which the adoption of so strange a creed was merely a minor expression. We should be sorry to say that all the three classes of persons we have mentioned are insane, but we venture to surmise that their curious views give *prima-facie* evidence of a restricted mental development. In all such cases it would be of value to inquire into the personal and the family history of neurotic troubles. One question we should like to ask of the present government, if the Conscientious Objector can withdraw himself from the action of the law, how can the Peculiar People and the Christian Scientists be coerced into obeying medical systems that would often be far more difficult to justify than that of vaccination?—*Medical Press*.

WASTED SEWAGE AND WHEAT-STARVATION

We generally look to the president of the British Association to supply us with a sensation at this season of the year, and we are seldom disappointed. This year Sir William Crookes has drawn for us a horrible picture of coming scarcity of the staff of life. He founded his vaticinations on a combination of the scientific imagination and statistics, a blend which is in itself apt to produce a depressing effect on the average man, and the results which he reached were certainly not calculated to raise the spirits of his audience. We have reached, he contended, a stage in the world's history, having regard to the present rate of increase in the population of all countries eating wheaten bread and the acreage all over the world suitable for yielding wheat, when the supply of wheat will begin to be unequal to the demand unless the yield of wheat per acre can be very largely increased. Wheat is a crop which must have a large supply of fixed nitrogen; we have been for generations, and at an increasing rate during the present generation, running our

manure containing a great part of the world's stock of fixed nitrogen to waste by turning it into the rivers and the sea. Therefore we are within measurable distance of fixed-nitrogen bankruptcy, and not all the nitrate deposits of Chili can restore the balance. The argument is a curious illustration of the fact that if man violates a law of Nature, the consequences recoil upon his head. Our slovenly method of sewage-disposal not only brings in its train immediate risks of disease, but future risks of starvation. "The fixation of nitrogen," said Sir William Crookes, "is vital to the progress of civilized humanity. Unless we can class it among certainties to come, the great Caucasian race will cease to be foremost in the world, and will be squeezed out of existence by races to whom wheaten bread is not the staff of life." There is, of course, nothing new in the contention that the waste of sewage must certainly involve great loss. Liebig, as Sir William Crookes reminds us, prophesied the downfall of Great Britain from this very cause, but it is interesting and impressive to have the fact enforced by figures carefully prepared from the best available commercial calculations. It is almost a pity that Sir William Crookes spoilt the impressiveness of the lesson he was teaching by suggesting that electricity generated by Niagara and used for the production of nitrate might after all set the matter right, even though the waste of fixed nitrogen in sewage be continued *ad infinitum*.—*British Medical Journal*.

THE SEVENTH SON

It is comforting to see that board schools and the spread of education have not yet altogether killed romance. On September 2 a weaver named "Doctor" Talbot was charged at Southwark Police Court with traveling on the railway without having paid his fare. The prisoner said that "Doctor" was his Christian name and he had had it given him because he was the seventh son of a seventh son, and therefore possessed the gift of healing. This is a very old belief and was sometimes varied by being applied to a seventh male child in succession, whether or no his father had been in like case. In

Notes and Queries, June 12, 1852, appeared the following: "In Saltash street, Plymouth, my friend copied on December 10, 1851, the following inscription: 'A. Shepherd, the third seventh daughter, Doctress.'" In Lupton's "Notable Things," ed. 1660, we find: "It is manifest by experience that the seventh male child by just order (never a girl or wench being born between) doth heal only with touching, through a natural gift, the king's evil, which is a special gift of God, given to kings and queens, as daily experience doth witness." In France, especially in the Orleans district, the seventh son is called a *marcou*, he possesses healing powers, and is marked on the left side with a fleur-de-lys. On the Border the seventh son is marked with the seven stars and it is interesting to find that individuals of this class not only possess inherent healing powers, but it is the usual custom to bring them up as "doctors." Wrightson, the Wise Man of Stokesley, who flourished some seventy years ago, was a seventh son. The belief is only one of the innumerable beliefs connected with the number seven. So numerous are these that a narration of them all would fill a volume of *The Lancet*, but we may mention a few of them. From the very earliest ages the seven great planets were known and ruled this world and the dwellers in it, and their number entered into every conceivable matter that concerned man. There are seven days in the week, "seven holes in the head for the master stars are seven," seven ages both for man and the world in which he lives. There were seven material heavens and in the underworld described by Dante, the great Pagan dead who were not good enough for heaven or bad enough for hell reposed in a seven-walled and seven-gated city. There are seven colors in the spectrum and seven notes in the diatonic octave and the "leading" note of the scale is the seventh. Be it noted that the seventh son is not always gifted with beneficent powers. In Portugal he is believed to be subject to the powers of darkness and to be compelled every Saturday evening to assume the likeness of an ass. Wild and dreamy as all these legends and ideas are it is not impossible that underlying

an almost universal belief there should be some substratum of truth. As Sir William Crookes reminds us, there are powers and influences of which we know nothing. The eye is insensible to the ultra-violet rays which yet we know to exist. To quote Epictetus, "A little soul, for a little, bears up this corpse which is man," and this earth and all upon it is but a speck of dust in the vast expanse of the universe.—*Lancet*.

"MEDICAL ASEPSIS"

If there is any truth in the theory of asepsis and antisepsis, it applies with equal force in the practice of medicine as it does in surgery. No educated surgeon would presume to operate without first attending to all the approved methods of rendering an operation thoroughly aseptic. It would be a useless attempt to elaborate upon the benefits of modern surgery as compared with that of the past. The truth is fully realized by every educated surgeon in the land; but the practice of medicine needs all the safeguards that can be thrown around it, in order that it may attain to, and maintain, that respect and confidence in its efficiency, that it merits.

There is much good that can be accomplished by the careful and intelligent application of rational therapeutics. Any agency employed by the physician for the relief and cure of his patient is properly considered a therapeutic measure. Just here I wish to impress the thought that no agency has more to do with the successful termination of disease than true "medical asepsis." It would be inconsistent for the physician to order the room, bedding, and clothing of a patient disinfected and allow that patient to use the same spoons, glasses, and graduates for perhaps days without disinfecting them; or, to carefully attend to the patient's immediate surroundings and neglect the water- or food-supply.

Every progressive physician should attend as carefully to securing medical asepsis as the modern surgeon does in securing surgical asepsis. If better results are had by the methods of the latter, certainly the same efforts are justified by the former.

There can be no question that medical

asepsis is one of the agencies of certain results in the field of therapeutics. Furthermore, the best therapeutic agencies are the ingenious employment of placebos, and as these are intended more for their moral effect than otherwise, the careful attention to medical asepsis, will assist largely in the attainment of that object.—*Charlotte Medical Journal*.

SERUM-TREATMENT RETROGRESSING

Dr. McWalter did not include serum-therapeutics in his Conference paper, "Materia Medica Animalis," and dispensers were consequently spared some peculiar reflections, for few new remedies of recent years have given them so much trouble as the serums. But there are signs that serum-therapy is on the wane. Perhaps it has never really been in the ascendant except in the case of diphtheria-serum, as of the half-dozen or more serums which have been brought forward none of them, other than the diphtheria one, have gone far beyond the hospital or experimental stage. It is peculiar that the principles which have been so successful in producing a diphtheria-antitoxin should have so signally failed in nearly every other toxin-disease. We refer in this to the use of the remedies in general medical practice, which is the ultimate test of their value, and which requires that remedies for critical disorders should be (1) promptly obtainable, (2) constant and reliable in their action, and (3) so safe and certain that they may be used at any stage of the disease. Diphtheria-serum has fulfilled these conditions—the last so well that it is administered as soon as the disease is diagnosed. The results have been so generally good that opposition to the serum-treatment has almost vanished; yet physicians know that the new treatment has made common in diphtheria-cases a terror hitherto comparatively rare—viz., paralysis of various centers.

It appears that we can never be certain what an antitoxic serum will do at the same time as or after it has done the special work for which it has been administered, and the observations with rinderpest, plague, and serpent-venom serums are so conflicting that it is questionable if we have

got on the right track in antitoxin-treatment. Two things are certain—viz., that streptococcic, tuberculous, tetanic, bubonic, and a few other antitoxic serums may be ranked as failures, because (1) the immunity which they confer is extremely variable in degree and brief in duration, and (2) the potency of the serums is so short-lived as to make them valueless as remedies for general practice in all parts of the world, many of them being remote from the place of manufacture. Diphtheria antitoxic serum is in striking contrast with these others, for it keeps well and can virtually be made any strength desired.—*Chemist and Druggist*.

WHAT IS THE MATTER WITH THE MEDICAL PROFESSION?

For at least three years, the entire medical profession and press of America have been receiving frequent professional reports of skin-grafting over large surfaces denuded of skin by ulcers, burns, and traumatism, by means of minute points of dermal tissue (any kind) distributed about half an inch apart, and nourished by a topical supply of bovine blood. Neither a failure, nor even a set-back or check to uninterrupted and perfect recovery by this painless and easy method, has ever been known; while the clinical cases published have been numerous.

Rationally, it would have been presumed that before this time, the cruel, often impracticable, and very often entirely unsuccessful, old practice of skinning one or many other persons to repair a patient, had been universally abandoned, and blood-nourishment of skin-grafts become the rule.

On the contrary, however, the successful method has been adopted only by earnest but obscure practitioners here and there, and has never been so much as mentioned by any of the so-called lights (!) of the profession, to this day. But in almost every month's medical publications, some stale story of the old barbarous practice, or some petty modification—as by means of a safety-razor, for instance—starts up, and goes the rounds of the entire medical press! Can anybody tell what is the matter with such a medical hierarchy as this?—*Modern Medical Science*.

CURRENT TOPICS

RIGHT OF CRITICISM BEFORE THE TRIBUNAL OF THE ACADEMY

M. Javal (*Bull. méd.*, No. 66, Aug. 17, 1898) writes that on August 10, 1897, he communicated to the Academy the result of the labors of Druault and Tscherning on spectacle-glasses of baryta, by which it appeared that these glasses were inferior to ordinary glasses. The manufacturer of these glasses, informed of the writer's intention to make this communication, had him enjoined from speaking and the Academy enjoined from hearing him and the editor of the Bulletins of the Academy enjoined from publishing his communication. Suit followed. Before the hearing, Javal's adversaries withdrew their complaint, but he nevertheless demanded judgment in order to establish judicially the rights of scientific discussion. This the tribunal has upheld. H.

APHASIA AND TESTAMENTARY CAPACITY

The occurrence of aphasia, meaning thereby not merely loss of speech but loss in varying degree of the power of understanding spoken or written language, has, according to Sir W. T. Gairdner (*The Hospital*, Vol. XXIV, No. 626, 1898), raised many questions as to the capacity of persons so afflicted to make a will.

So far as concerns the anatomy of the parts involved, we have to recognize that there are at least four centers of localization in the brain, lesions of which may affect the power of speech and of written language. There is Broca's convolution and there is the auditory center which play one upon the other, the auditory center transmitting to Broca's convolution the impressions of spoken words through the ear, while the mechanism of speech is set in motion from Broca's speech-center in the brain; so that these two centers are concerned chiefly with the reception and production of vocal speech.

Then there are two centers which are connected with graphic language, with written or printed words, centers again which, so far as the mind is concerned, probably work through the auditory center. There is no doubt, the writer believes, that a fifth center has to do with the ideation of the word as apart from the mechanism of its production, but this is not definitely localized. It is, therefore, sufficient to take into account the ingoing and outgoing mechanisms, and to divide the former into those that enter by the ear and

by the eye and the latter into those that express thought by speech and writing.

The matter is of course constantly complicated by the fact that the lesion by which any one or more of these centers may be injured is almost certain at the same time to have done other damage to the brain, the extent of which is in no way indicated by the amount of interference with speech which may exist in any given case.

A question, however, which more or less overhangs the whole problem is the general one as to the mental state of aphasics—how far, that is, who has lost his words retains his reason. That words are essential to the attainment of all higher mental development may well be admitted; nay, the writer thinks, it may be conceded that a man who had never been otherwise than aphasic, who has, that is, been congenitally deficient in any of the mechanisms which go to make the speech-faculty, could never become a reasoning animal, and could not rise much above the level of a dog, an elephant, or a horse.

But when we come to the case of a man who is by a sudden accident lamed as regards the mechanism of this particular faculty, having all his reasoning processes well-developed beforehand, we cannot admit that he of necessity suffers any derogation at all of the higher faculties merely because he has lost that of speech; although practically he may suffer in almost any degree in consequence of other faculties besides that of speech being involved in the accident in question—as, for example, in the extreme instance in which an aphasic is also rendered comatose.

If, then, we come back to the question how far does this losing of one faculty interfere with a man's power of making a will, we see that it is a question which does not admit of an answer in general terms, and in fact requires a consideration of the further question what amount of intellect it requires to make a will, even in cases that are not aphasic.

In regard to this it has to be borne in mind that, although a will may be a very complex document, it may on the other hand be very simple and very easy to comprehend, so that when one is asked whether an individual had mind enough to make a will we immediately retort, what will? For while even a moderately clever man might be puzzled by the phraseology of some forms of will a comparatively low intelligence might quite comprehend so simple a formulary as that adopted by the late M. Pasteur, "I give all my goods to my wife."

Granting, then, that the existence of

aphasia imposes on a man a difficulty in giving expression to his thoughts, and that the malady in connection with which aphasia occurs may or may not interfere with his capacity for understanding the contents of the will, we have, in deciding the capacity of any given aphasic person to make a will, to bear in mind (1) the nature of the will which it is sought to establish, (2) the evidence which may be offered of the persistence of mental capacity to understand such a document, and finally the evidence which exists as to his power of communicating his assent or his dissent from the proposal it may contain.

A completely aphasic, but not otherwise insane or stupid person, has no doubt, as regards his inner mind, the full capacity of making a will of some kind, but the question whether an individual aphasic was capable of making the individual will which he is asserted to have made, is one which must be submitted to a jury and be fought out in a court of law, not upon abstract principles at all, but on the basis of the individual facts of the particular case. S.

ON A NEW STAIN FOR FATTY TISSUE

Rieder (*Deutsch. Arch. f. klin. Med.*, Vol. LIX, p. 444) gives the results of his experiments with Sudan III for the staining of fat. Alcoholic solutions of the fluid are used. Fatty degeneration of cells, fat-drops in secretions and excretions, are differentiated with great ease by this coloring matter. He believes this stain to be a particularly valuable one and especially useful in clinical microscopy. J.

ON THE LIPOLYTIC FUNCTION OF THE BLOOD

W. Cohnstein and H. Michaelis (*Pflüger's Archiv.*, LXIX, Parts 1 and 2, p. 76) show that after the chyle is conveyed into the circulation in the form of a very fine emulsion a further change takes place in the fat, termed "lipolysis," whereby it is modified into a substance soluble in water. The property of inducing this lipolysis is stated by the authors to be the property of the red blood-cell and not the serum. The process is in the nature of a fermentation, and is favored by high temperatures. The presence of oxygen is necessary for the process and cannot be replaced by any other gas, especially not by hydrogen.

The authors further show how faulty analysis of the blood-fats has been because this important factor was not considered, variations as great as 70 per cent. becoming manifest on slight exposure to the air. Dried blood and dried blood-extracts have a similar action upon fats, but a drying-point above 40° C. must be avoided.

SELECTED PAPER

MEDICINE IN THE NINETEENTH CENTURY*

By THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S.,
F.L.S., F.S.A.,

Regius Professor of Medicine in the University of Cambridge, England, etc., etc.

Dr. Allbutt opened his address by reviewing the history of medicine from the earliest times, showing the manner of investigation and the method of arriving at the diagnosis. He reviewed briefly the experimental and the dialectic methods, and, in discussing the inductive method, he said that it consisted of two processes at least—one of observation, and the other of imagination. Then, coming down to the present time, he continued his address by saying:

It would now seem that even in medicine the experimental method, which seemed forbidden to her, is making its way after all. If pathology never can become a science of direct experiment in the sense that physiology is so, it makes use of it as a second line of advance. If we cannot produce a pneumonia, we can study the results of cutting a nerve. In physiology the number of variables is embarrassing, yet in medicine it is far greater. No two cases of a disease are alike; temperament, race, season, circumstances—all variables—conspire to modify cases and inferences. It will always, indeed, be impossible in any branch of the biological sciences to isolate conditions and to repeat them as in chemistry and physics. Yet, as I have said, an approximation to such means is manifested in the bacteriological laboratory, where pure cultures are separated, their toxins tested in proportion to body-weight, anti-toxins calculated and immunities predicted.

It would seem to be, in the study of immunities, that the physician will first attain the reward of scientific research in prediction. A science which cannot predict quantitatively is in an inchoate stage. Multiplication of corpuscles, like the increase of cell-growth in a hypertrophied heart or kidney, is but a case of compensation—a measure of resistance to disturbance.

Whether we regard it from the static or the dynamic point of view, the conception of the vis medicatrix naturae gains newer force every day. Our blood and other corpuscles are microbes, their serums are factors in natural processes, and are regarded as healthy or unhealthy as they happen to be convenient or inconvenient at the mo-

* Abstract of address delivered at the opening of the Johns Hopkins Medical School, October 17, 1898.

ment of observation. Glands, such as the liver and kidney, are aggregations of microbes specialized for particular functions, and generate juices which are factors of nutrition, and not only of negative, but, as we have learned so well in respect of the thyroid, of positive influence in the balance of its manifold processes.

From experiment and observation we find that this reserve energy of the body in its various parts is enormous. How large is the view of the province of therapeutics thus presented to us we may see in the rapid advance of what I may call physiological remedies. As hygiene is to the state of health, so is physiological medicine to that of disease. By physiological medicine, I mean the use of the ordinary functions of the body in counteraction of contingent or inherent perils.

It is a common, but I think a shallow reproach to modern medicine, that, with all the advance of our knowledge of pathology, therapeutics stands where it did in the time of our fathers, or has even fallen back, in so far as a certain sceptical distrust of empirical remedies has discouraged the continued use of remedies which the wisdom of our fathers has discovered by practice and observation. It is said that we will not use the most respectable of traditional remedies unless we have some notion of its mode of operation. It is possible that the invaluable work which a scientific scepticism has done for us, not in therapeutics only, has been attended by some destructive effects which are to be regretted. I think, however, it would be difficult to bring forward many instances of the kind in our own case; while, on the other hand, the pruning and clarifying which our practice has undergone, far outweigh any such temporary disablements. The truth is, that the cry itself is a shallow one. I will not stay to assert that modern surgery, the brilliant progress of which is in all our mouths, is progress in therapeutics, the division between surgery and medicine being a division of convenience, a division to which a mere practical and temporary usefulness only is to be attributed. Are we to forget, for instance, how the prognosis of peritonitis, of obstruction of the bowels, of pleuritic effusions, of encephalic tumors, of perityphlitis, of pelvic diseases, of ovarian ascites, etc.—a prognosis in troops of cases turned from sadness to hope—is not to be called progress in therapeutics because not infrequently the method is carried out by the skill of another hand? It might as well be asserted that the modern scheme of feeding in fevers, because it is carried out by trained nurses,

is no therapeutical progress. Nor will I admit, even in the sphere of drug-therapeutics, that our progress is contemptible.

When we regard the additions made to our hypnotics, the discovery of the value of the nitrites, of the bromides, of arsenic in pernicious anemia, of the salicylates, of the antipyretic, hypnotic, and analgesic group, of the antiseptic treatment of diseases of the skin, of the antitoxic treatment of diphtheria, of the thyroid treatment of myxedema, or when, again, we realize the greater precision of our use of the older empirical remedies, as of digitalis, in the preciser administration of remedies in syphilis, in the injection of alcohol and ether, of apomorphine, of ergotine, of strychnine, of hyoscine, of cyanide of mercury; when, once again, we think how much more accurately we discriminate our means in the treatment of phthisis, of dyspepsia, of fevers, of palsies, central or peripheral, we may confidently take encouragement and meet those adversaries in the gate who say that therapeutics has made no considerable progress. At the same time, we may well take to heart the lesson which such criticism may teach us. While we have learned that empirical knowledge, although a power against ignorance, is of less avail against the more ordered and living knowledge of a maturer science, on the other hand, for this very reason, we are now, perhaps, apt to despise unduly the traditional remedies which rest their claims to usefulness more on empirical than on reasonable grounds. For in the use and practice of all methods we must remember that medicine is an art; that it is something more than an applied science.

Our art has always been, and probably long must be, in advance of scientific direction and explanation. Moreover, as in all arts, more than knowledge is needed, namely, common sense, rapid and firm decision, and resourcefulness—faculties by no means resting upon intellectual conceptions, but on a certain virility of character not to be got from books. It is no uncommon experience to see physicians of high intellectual subtlety, of great learning and of pretty wit, lose themselves in the practice and even in the exposition of their profession, because in them the critical faculty exceeds the practical. Indiscriminate doubt, however valuable an attitude of mind in the laboratory, is mischievous in the field of action, where a keen determination to make the best of imperfect instruments, to use any accredited means rather than none, should be the dominating impulses—impulses which enlist also on the side of the physician the hope and animal spirits of

the patient; for, after all, the practice of medicine contains no small element of "suggestion." Furthermore, the fastidious spirit, which I have endeavored to indicate, is, on the whole, opposed to progress, as, even in thought, it lends itself too readily to irresolution, and irresolution is the quick way to indolence. On the other hand, I need not warn you that practice without continual scientific re-edification soon degenerates into stereotyped and sterile routine.

Once more, when we are twitted with the discovery of manifold new diseases, without the discovery of any means of dealing with them, we may reply that not only are we discovering the course and ends of these destructions, not only are we discriminating between this series of symptoms of dissolution and that, but we are engaged, as I will remind you again, in the study of origins. We are no longer satisfied to contemplate the wreckage of disease, but we are earnestly hunting out the processes in which such and such deviations from health took their being.

The study of origins, then, is not only the new method of modern criticism, of modern history, of modern anthropology, of our reading of the evolution of the universe itself from elements which even themselves are falling under the same analytical inquiry, but the study of origins is leading to a revolution in our conception of therapeutics, as of all these other studies; a revolution which as yet we have not fully understood. This revolutionary conception is that death is not to be driven away by the apothecary, not by any cunning compilation of drugs, but is to be prevented by the subtler strategy, which consists in knowing all the moves of the game. Few and simple are the diseases which can be expelled by leechcraft, as we expel a worm. The medicine of the future will consist in setting our wits to nature, in recognizing that when evils have befallen us there is no counsel, and that in the simple beginnings of things are the time and place to detect where stealthy nature, atom by atom, builds and unbuilds, feeds us or poisons us. To disentangle the clue we shall not pull at it anyhow; we shall anxiously seek the beginning of it, thence to unravel its windings.

There is an old saw, that nature takes as much trouble to make a beggar as a king. She does not make diseases to sit so loosely that they can be expelled by violence or bound by a charm. Much of curative medicine, in the vulgar sense, will thus be swallowed up in preventive medicine. We shall not wait till we are half-

dead before we take in hand our disorders; abnormal processes, not their results only, will be our fruitful study.

Another feature of modern therapeutics is the use of nature against herself. We learn, as I have said, to play the game. We are not content to sleep at our posts till we must fight desperately against a checkmate, but we keep in touch with the enemy all through, and use the same means. Thus, by the side of preventive medicine, we learn that hygiene, in its largest sense, is also to be our guide. Instead of trusting to prescriptions for alleged specifics, which have no little kinship with magic and antidotes, we ally ourselves with nature's own forces. For example, if we cannot prevent infantile palsy, which soon, perhaps, we may do, we shall attempt its cure, not by idle drugs, but by strengthening the physiological factors of life; by the use of massage, electricity, warmth, etc. As we farther discover the physiological factors of life, we learn to supplement the failing juices of a gland from other sources in the economy; by learning the distribution of heat in the body, we find that fever can be controlled by conduction of heat by cold baths and otherwise; by a better knowledge of the mechanics of the circulation, we arm ourselves with means for regulating its currents by baths and gymnastics and the like. Even in the sphere of drugs themselves we are, year by year, deposing this drug and that from the place of specifics, as in the case of quinine, and putting them in the ranks of preventive agents, and, with respect to others, we are carrying our study of origins into their qualities, as well as into the healthy or morbid processes over which they have power. The relation of atomic weight to physiological effect, the experiments by which, on slight substitution of one molecule for another, we convert compounds from one kind into another and widely diverse kind, from convulsants, for example, into narcotic or paralyzing agents, we throw light not only on their own properties, but also on the secret processes of the animal body itself. I will not stay to illustrate in the same way the parallels between the members of different series, nor the advances, of late the least active, by the way, of physiological chemistry, and of chemotaxis, and of the study of the behavior of serums and the like within the more comprehensible range of the test-tube. Such considerations impress us again and again with the importance of the union of practical and laboratory or theoretical work in the same person and in the same schools. No observer who has not made medicine

more or less a practical study can be as well equipped as otherwise he could be to investigate such subjects as these.

The modern hospital must be the modern laboratory of medicine. As in the sixteenth century the great laboratories of anatomy sprang into existence, in the seventeenth the laboratories of physics, in the nineteenth the chemical (Liebig), the physiological (Ludwig), the chemico-physiological (Hoppe-Seyler), the pathological (Virchow), the hygienic (Pettenkofer), so the clinical laboratories initiated but the other day in Germany by v. Ziemssen, Curschmann, and in the United States by Pepper, are the factories out of which the new medicine is to come—the medicine which, penetrating into the intimate processes of nature, learns to turn nature to her own correction. The clinical laboratory is to be the scene of the study of the origins of disease.

What are the aids and dangers of "specialism" in these advances? Against this tendency in modern studies and practice an outcry has been raised which, if a little unintelligent in its way of expression, has not been without justification. In advancing civilization the applications of thought, as well as those of labor, must be divided and subdivided. The activities of the mind are at least as multiform as those of the traveler in the world, and it is impossible for all explorers to follow each other over all ways. As pioneers increase in number and in adventure the more are they divided from each other, the more difficult is it for each to make himself master, even by report, of the work of all. This general law is as true for medical inquiry and for medical practice as for electricians or naval engineers. Not only so, but we may say that, in the sciences, men are not traveling over one world only, but over many. If within each world of mathematics, physics, chemistry, etc., explorers separate and travel out of sight of each other, what shall be said of the remoteness of explorers in these several worlds! Yet these several worlds of the sciences are not as Mars to us, but as the various kingdoms of the earth. What goes on in each is of the utmost importance to all, and as civilization advances becomes not of less importance, but of more and more. Herein lies the justification of what I have called the outcry against specialism. The protestants have perceived this interrelation of all knowledge, and they have foreseen both the narrowness of spirit and the lameness of practice which must come of such a disintegration of parts of such an isolation of efforts. Nay, they may not improperly

conceive that a less amount of knowledge, duly systematized, may be of more value in affairs and in philosophy than more knowledge in scattered parcels. If the outcry has been somewhat unintelligent, this has been not in the perception of the kind of injury to learning. This is to be credited to them as a virtue. But in the want of perception that some division of labor is inevitable, the protestants have seemed to care less for the advance than for the system of learning, and, indeed, to have set practice in some antagonism to learning.

We shall henceforth perceive, I trust, that this new movement comes from the deeps; that it is not by withstanding the very conditions of modern progress that we shall secure its balance, its concert, and its sanity. Happily, evolution will be found still to consist not in differentiation only, but also in integration. As labor is divided, an organization of knowledge must proceed step by step with the division. Specialism will have its disadvantages, as all exclusive aspects of things have them. In practice, specialism will have its charlatanism, as omniscience has had it. It is only by the increase of discernment and education in society at large that the genuine and humble children of nature will be known, and it is by progress in its best sense that such discernment and education are to be extended. I do not hesitate to say that even within my own lifetime these qualities in the relation of society towards our profession have not only increased, but have waxed abundantly, and thus is a medium formed in which the remoteness and alienation of specialized workers finds a corrective. The worker in all subjects, even in the larger operations of ordinary trade, learns that he, too, must think of the whole, as well as of parts and details. Even money cannot everywhere be broken up into small change; commerce can no longer be a piecemeal affair. In the tradesman, indeed, is engendered a mind in favor of breadth of view, and even in the man in the street is begotten a hazy notion that there cannot be, as in ancient Egypt, a physician for every part of the body. There is no mean in nature but nature makes that mean; if these qualities of intellectual concert, of scientific formation of mind, of breadth and sagacity are needed, they will be found, and the way to them will be found also. Indeed, such conceptions of education are gaining apace on the general mind, though their full bearing is not yet understood. It is this very breadth of mind which is aimed at by educational reformers, by those who prize education before mere acquisition, who assert that, with the greater com-

plexity and definiteness of knowledge, associations of workers and certain harmonies in their results must be brought about.

Those, then, who resent the specialization of science, as of other fields of human work, although they are wrong in their way of opposition, have hold, nevertheless, of an important truth, and they agree with the Thracian King Zamolxis, who was also a god. Zamolxis observed that "as you ought not to attempt to cure the body without the head, or the head without the body, so neither ought you to attempt to cure the body without the soul," and this, he said, "is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole, which ought to be studied also, for the part can never be well unless the whole be well." (Charmides.) Although then we cannot hope that every physician shall be a man of science, we may secure that he shall have the scientific habit of mind, for thus, as we have seen, he will be habituated to lay out his knowledge systematically, to trace phenomena to their sources, and to see his own facts in their due relation to other facts. This is the philosophical temper which cannot be learned from books and rarely without tradition and converse with gifted men.

Some disciples are more apt to receive this grace than others; some men, many learned specialists, are incapable of wise scientific judgment; no examination can test it; no memory can secure it; it is in part a product of time, which accepts what is good and rejects that which is transitory. It is to be assimilated from organs of knowledge, such as universities, and not from mere polytechnic institutions. It is the highest reward of the teaching from a living source, for, as Professor Butcher says, "the test of life is to impart life."

Too many students pass through their schools without an awakening of their minds. They believe their superficial knowledge to be exhaustive, and they become the mouthpieces of ready-made opinions.

I should be an ill bird were I to say anything to-day in depreciation of the value of lectures of my own wares. In bygone times I have said much in depreciation of them, urging that they are survivals of a time when books were scarce and dear, and when knowledge was looked upon as spoonmeat. I have helped forward the cry that the laboratory must be the future living source of knowledge and of inspiration. While men were blind to this new truth it was necessary to urge it to the hindrance of other needs which men were not likely

to forget. Now that the battle is won, and the laboratory is everywhere with us, we may turn again to consider what there is in older methods which we would not willingly lose. In lectures we may still find the virtues which flow from living converse with thoughtful men who have been over the field of our studies before us, who can show us how their minds worked, how they systematize their knowledge, how they came to see it in the light of other researches, how they inspired it with human interest. For such ends as this we must have no mere retail dealer in knowledge for our lecturer. In all the universities it is now recognized that, except for tutorial work, the lecturer to beginners must be the leader in his faculty. He it is who can give the true first set to the thoughts of young men who are entering into the subject of their lives; older men and advanced work may well be undertaken by demonstrators.

Thus far I have considered specialism and breadth in respect of the education in our profession, but a larger problem lies before us, namely, that wider culture which lies beyond the confines of all professions. One of the difficult conditions of our own generation is the urgent pressure on young men and boys by reformers and anxious parents who desire, not unreasonably, to mold their sons into money-making machines at as early a date as possible. When I took my degree at Cambridge our course was, in the first place, to take an arts degree, at that time only to be had in the arts. Thereafter came the natural-science studies, with their tripos, and after that again the clinical studies proper to our professional life. This course occupied us up to the age of twenty-five, at least, and in some respects it was a far better education than we now bestow. Now, from the first hour of the medical student's arrival in Cambridge he is too often turned at once into the narrower channel of his special calling, and he even tries to pick up a precarious instruction in clinical work while he is ostensibly at work on the preliminary sciences. Nay, such is the pressure of the times, parents and teachers are getting impatient even with this rate of speed, and are insisting that even at school time is wasted in classical and other broader studies which might be utilized for science, and that men should come up to the university ready to "specialize" farther still. Among other strong arguments in favor of this reform is this—that whoso means to practise surgery should acquire manual dexterity, and that this advantage cannot be acquired by the ordinary man unless he begin to educate his plastic fingers in early youth. This

argument I will dismiss in a word by saying that, in my opinion, every man should be educated in a handicraft or mechanical art of some kind during his early youth. The importance of this element of education is curiously forgotten even by such a mechanical race as the English and American. So much for surgery; the boy who has learned to use a lathe or to make a chest of drawers will have fingers apt enough for surgery.

There is, moreover, another means of education most useful in early life, namely, that of measurement. At every national school youths of both sexes should learn to measure accurately to thousandths of an inch and to hundredths of a grain; thus the eye is taught with the hand, and, what is of more importance, the mind is trained to know what accuracy means. These occupations, invaluable in training of character and skill as they are, would add nothing to the burden on a growing brain.

Of the sciences, those of memory and observation only should have a place. The mind of youth in a stage when the imagination, rather than abstract thought, should be cultivated. To collect natural objects, and thus to be drawn into the haunts of animals, into the habitations of plants, and to see the structure of the earth, excites and enlarges the imagination and strengthens the memory at a time when these faculties are ripe for culture. I have never happened to meet a young man, educated in abstract science at school, who seemed to me to have used his time to the best advantage. If, for the present, it has led to success in the narrowest sense, I think we are entering even now into a generation when success must be based on a larger education than this—on an education in letters and in the humanities, as well as in the laws of the material universe.

We are apt to forget that even in these days of science, advancing by leaps and bounds, that still the greater part of man's life is spent in the expression of his thoughts and in converse with mankind. He should, therefore, have learned to handle the ideas which concern himself and his fellows, not only in their material conflict with nature, but also in those higher spheres of history, ethics, politics, and social aspiration, for which alone man can be said properly to live. If we regard the mastery of modern man over nature in any other light than as clearing for us a larger base for a reconstruction of societies which shall be more wise, more humane, more beautiful in spirit than in the past, there would be nothing but sadness in the contemplation of modern life, with its "gay afflictions, golden toil."

No doubt we must rebuild our material home, but we ourselves also must be born again. (Newman.)

The uses of learning Latin and Greek lie in this—that in these studies, more than in any others, the ideas which concern man in his highest endowments of mental, spiritual, and social life are manifest, and not only so, but are manifested in languages the most virile and beautiful the world has known. Latin and Greek are called dead languages. If so, the Hermes of Praxiteles and the Venus of Milo are corpses. Latin and Greek contain in perfection of form not modern science, but that for which modern science exists—the best that man has lived and thought. It would be a narrow pedagogy which should assert that strong and penetrating thought and noble and chastened imagination are to be found only in Latin and Greek; we may be thankful, indeed, that the English language is or has been as noble an instrument, and enshrines at least as fine a literature. Yet it has been said long before our time that to know one literature only is to wander in the sphere of letters without a scale of relative dimensions; to lose the faculty of comparisons for lack of standards of comparison. To learn to speak a language like a parrot is but to train a mechanical memory. Latin and Greek, however, although they contain the finest records of human thought and action, are, as I have said, not the only shrines of letters, and the noble literatures of France, Germany, or Italy may take the place of either of them, and carry the additional advantage of common usefulness.

But do not let us forget that our calling derives its honor not from its power of repairing the carnal body; were this its only title to respect it would take a low place in the hierarchy of professions. Those professions which deal with the ends, which alone make life worth preserving—such as that of the law of religion, philosophy, and of the fine arts—would in such case regard our occupation but as a higher kind of farriery. The glory of our profession, from the hour when Hippocrates, in that oath wherewith like a trumpet, the notes of which reverberate still through the ages, summoned us to take our place in the forefront of the fight, has been that we are concerned not only for mankind, but for men. The ideal side of a physician's life is that he brings healing or solace to his human fellow. The Greek philosopher, like the modern socialist, would sacrifice man to the State; the priest would sacrifice man to the Church; the scientific evolutionist would sacrifice man to the race. Yet, while all these elements of co-operation and

of aspiration work together for good, we thankfully see that, after all, the tendency of civil evolution, as of Christian ethics, is to use society as a means for man himself, as a means to purify and to elevate the individual soul. The physician, then, is more than a naturalist; he is the minister not only of humanity at large, but of man himself. Thus it is that the humblest of us, and he who labors in the darkest and most thankless parts of our cities, is never a drudge; in the sight of the angels he is illustrious by the light of his service to men and women. The man of science can tell us delightful things about birds, flowers, and wild life, for all life is various and touching; he can tell us queer and uncomfortable things about our insides, amazingly useful things about steam and electricity, but at bottom, when the marvel is over or the material gain is won, all this grows stale. Ideas concerning the harmony of the spheres, concerning cosmic evolution, concerning the inhabitants of Mars, are prodigious; they may uplift us sometimes with a sense of the greatness of man's inheritance, but alone they are cold and unsatisfying. The child of his age feels that a sonnet of Wordsworth, a flash of Browning's lamp into man's heart, an idyll of Tennyson give us thoughts worth more than all the billions of whirling stones in the universe. In strengthening and cherishing this inner life of his brother and sister, happily, the physician has many fellows, but the physician alone among them all holds sacred the lamp of the personal life for its own individual sake; he alone forgets Church, State, nay, even the human race itself, in his tender care for the suffering man and for the suffering woman who come to him for help.—*Maryland Medical Journal*.

Treatment of General Edema

According to a writer in *Méd. mod.* the best treatment of general edema of the legs is the introduction of a fine cautery-point 7 or 8 ctm. (3 in.) above the external malleolus the skin first being carefully prepared with antiseptics. Two punctures are made on each leg, one above the other, passing clear through the skin. Hemorrhage is rare. The leg should be enveloped with compresses soaked in a weak antiseptic solution, after having been smeared with borated vaselin. The dressing should be changed several times daily. From the punctures a large amount of serous fluid escapes, and the improvement of the patient is manifest within a short time. When the openings close, it is necessary to repeat the punctures in another place.

ADDRESS

ADDRESS ON THE USE AND ABUSE OF INTERNAL REMEDIES IN THE TREATMENT OF SKIN-DISEASES

Delivered at the Annual Meeting of the Reading Pathological Society, Thursday, October 6th, 1898

By MALCOLM MORRIS, F.R.C.S. EDIN.,

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There is no doubt that, concurrently with great increase of knowledge of the nature of diseases of the skin that has been gained in recent years, there has been an increasing tendency among dermatologists to trust more to external than to internal remedies in the treatment of these affections. So many cutaneous diseases once believed to be expressions of an intangible or purely hypothetical "diathesis" have been traced to causes which can be removed or held in check by local measures, that it is natural to suspect a like origin for many more. It is also natural that, in default of any other definite indications, action should be taken on such suspicion, and in a large proportion of cases the treatment is justified by its success. The immeasurable superiority in appearance, convenience of application, accuracy of dosage, and efficiency of the pastes, varnishes, "sticks," and so forth, which (thanks to the inventiveness of Unna, Pick, Brooke, and others), have displaced the dirty ointments, clumsy plasters, and abominable poultices of a former day, has powerfully helped to extend the use of local remedies.

This improvement in our methods of local treatment is attended with certain disadvantages. The very excellence of our weapons tempts us to rely too exclusively upon them. If our scientific forefathers were too ready to invoke the aid of the constitution as a *deus ex machina* in dealing with every blotch or pimple, we on the other hand are perhaps too much inclined to leave it out of account. As usual the pendulum has swung too far in the opposite direction; the abuse of internal remedies has engendered an exaggerated disbelief in their use. Not, of course, that any dermatologist with a scientific character to lose treats every skin-disease by local applications alone. This would indeed be to substitute quackery for superstition. Internal remedies are often necessary instruments in working what Mr. Hutchinson has called the "miracle of cure;" still more often they are indispensable adjuncts to local treatment. It would, however, be an impertinence, as well as a waste of time, to labor so obvious a point or to dwell on what

is a commonplace of rational medicine. All are agreed that internal remedies have a place in dermatological therapeutics; but it may not be unprofitable to endeavor to define their sphere of influence, and to determine the conditions in which they are useful and the manner in which they may with the best effect be used.

THE EVILS OF POLYPHARMACY

Before entering on the discussion of these several points there is an important matter connected with the use of internal remedies which calls for some consideration. If these remedies are to do the good which, rightly used, they are capable of doing, they must be given with a definite purpose. In prescribing the practitioner should put clearly before his mind the effect which is required, and he should use the appropriate remedy in the way best fitted to produce that effect. This, of course, is a truism, but unfortunately, in medicine, as in morals, it is the truisms that are most neglected in practice. I think it was Archbishop Whately who said that most preachers aim at nothing, and hit it. The same may be said of too many prescribers. A superfluity of drugs in a prescription may serve to conceal the want of knowledge, as a superfluity of words in a discourse may hide the want of matter. But polypharmacy, however useful to the doctor as a cloak for ignorance and to the druggist as a source of profit, is an absurdity and an abuse. To the patient it is always more or less injurious. In the practice of our art we must often do evil that good may come of it. This is particularly the case in respect to the administration of internal remedies. Every drug taken into the stomach deranges to some extent the delicate machinery of the body, though this may be disregarded in view of its beneficial action in remedying more serious mischief. But a number of medicinal substances, thrown together in man's inside—what can come of this but trouble? The patient is lucky indeed if they simply neutralize each other, or if they move the overburdened stomach to eject them all impartially. It is this more than anything else that has made our art a stone of stumbling to the wise and a laughing-stock to scoffers. Practitioners of the old school were cynically described as pouring medicines of which they know little into bodies of which they know less. And the pity of it is that even now the gibe has not lost all its point. We no longer (at any rate of malice aforethought) prescribe such monsters of the pharmaceutical imagination as the "electuariumpopiatum polupharmacum," which consisted of seventy-two ingredients. But this fearful

and wonderful farrago was still in the *Codex Medicamentarius* of France not very many years ago, and I have myself seen in this country prescriptions of the same order of architecture, though less flamboyant in detail. Even at the present day mixtures of half a dozen ingredients are quite common, and sequepidalian formulas are by no means unknown, at least among dermatologists.

Nothing probably has hindered the progress of therapeutics as much as polypharmacy. If we fire charges of medicinal small shot at a disease, how are we to tell which of them hits the mark? And how is it possible to gain an accurate knowledge of the action of remedies if we administer them in mixtures as complex in their ingredients as the bouillabaisse so lovingly described by Thackeray?

The following passage from an article written many years ago by Dr. Peter Mere Latham expresses so exactly and so well what I have been struggling to say on this subject, that I make no excuse for quoting it:

"I have myself a reasonable amount of faith in the power of medicine over chronic diseases. I have laid up a certain sum of experience fairly collected, as I believe, from experiments which I have been making all my life. But, then, all my life I have been careful about my experiments in this respect; especially I have sought to manage my cases of chronic diseases (in other words, to work my experiments) as much as possible by single remedies. On any other terms I do not see how it were possible that I should have any faith at all. It is a mystery to me how such prescriptions as the following for any known forms of disease can end in any trustworthy experience:

Quinine	Ipecacuanha
Steel	Stramonium
Zinc	Colchicum
Valerian	Iodide of potassium.
Nux vomica	

"Such complex prescriptions render the knowledge of the remedial effects of particular substances absolutely impossible. Do the prescribers impute a distinct effect of its own to each of the ingredients, and so reckon the separate instalment brought by each to the remedial mass, or are they content to take it in the lump and rejoice in the oneness of the effect?

"My excellent friend, Dr. Chambers, as soon as he had chosen medicine for his profession, did not think it beneath his dignity to work at a great pharmaceutical chemist's, compounding medicines and making up prescriptions. Here he saw what had been

carefully preserved, the autograph prescriptions of bygone physicians. And those which bore the initials of the most eminent were remarkable for these two characteristics, their plain and legible penmanship and the very few and simple articles which they directed. Surely it is not unsafe to read the men's minds in these documents, and conceive the character of their thoughts and proceedings in the great business of their lives. The men were evidently candid and clear-sighted and of simple purpose; and among them were the best of their time—Dr. Heberden, Sir George Baker, the elder Dr. Warren, Dr. David Pitcairn, and Dr. Baillie. In our day, the profession of medicine needs a little gentle pressure from some such hands as these, to steady it and keep it within bounds.

"A gentleman went from Scotland to consult a celebrated watering-place physician. His complaint was asthma. A scheme of diet was laid down for him, scrupulously and minutely strict; and he followed it to the letter. A mixed multitude of medicines was prescribed for him, which had an unpromising look of strife and incongruity. But he took them all bravely and obediently; and verily he had his reward. He obtained relief of his asthma; but the asthma would still return, and so often as it returned he betook himself to his dietetic and remedial discipline, and it went away again; and so his faith was confirmed. In process of time, however, whether the diet was too austere, or the medicine too nauseous, and so the flesh began to rebel, or whether a laudable curiosity set him to find out the secret of his treatment and relief, he certainly began to question the necessity of all the means to the end. So, on his next attack, adhering to his dietetic rules, he bravely took no physic. But the asthma abided, and would not leave him until he had recourse to his accustomed medicine. On the following attack, he set at nought his dietetic rules, and scrupulously took his physic; and the asthma passed away as usual.

"It was pretty plain that the physic-bottle contained the cure. But to which of the many ingredients did it belong? To one or two or three, or to the whole hotch-potch working mysteriously together for good? In a matter which so nearly concerned him, the patient might be pardoned for laying his rash analytical hands upon the mysterious mixture. It contained, among other things, a few grains of iodide of potassium. Ingredient after ingredient was deducted; and, simpler and simpler as the mixture became, it still had equal power to abate the asthma, until the iodide of po-

tassium was deducted in its turn, and then its sovereign power was gone. Again, all the ingredients together were tried, excepting only the iodide of potassium; but altogether they did not touch the asthma remedially. Finally, every other ingredient was excluded, and the iodide left alone; and alone it displayed a sovereign remedial power.

"Fortunate the man who can get rid of an asthmatical attack on any terms; but unfortunate the art that is content with a rare fortuitous and unaccountable success: it must be either retrograde or stationary. To scatter above twenty remedies, and to let hit which may, is like pigeon-shooting in companies. The bird falls; but whose gun was it that brought it down? Nobody is reputed the better marksman after a hundred volleys."

THE SPHERE OF INFLUENCE OF INTERNAL REMEDIES

Coming now to the sphere of influence of internal remedies in skin-diseases, it may be said in general terms that they are the chief means of controlling lesions directly dependent on a constitutional taint (as in syphilis); or disordered action of the nervous system (as in certain forms of erythema and pemphigus) or on that unknown factor which makes certain diseased conditions tend to repeat themselves or to become inveterate by the establishment of a depraved habit in the structural elements of the skin (as in psoriasis, lichen, and certain forms of eczema). It will be convenient to consider the last class of affections first, as our knowledge of them, particularly in the matter of etiology, is much less precise than in the case of the others, and it is therefore with respect to them that difficulties as to the use of internal remedies are most likely to arise.

THE ACTION OF ALTERATIVES

Dr. Creighton³ attributes the morbid habit to which reference has just been made to the action of an "unconscious memory" resident in the cells or in the nervous system. The "memory" of past developmental phases may lead to the production of mesoblastic tumors which are the results of revived embryonic activity. A chronic catarrh of the respiratory or urethral mucous membrane is a reversion to "a more elementary, primitive, or embryonic kind of epithelial function." In skin-eruptions the morbid habit depends on implication of the nervous system, "whether" (he says) "it takes the form of mere dogged persistence—*ici je suis, ici je reste*—or of coming back time after time at the same spots or of encroaching on areas of skin unimpli-

cated before habit has become the second nature of the eruption; and the memory or retentiveness doubtless resides in the nerves and nerve-plexuses of the skin." Dr. Creighton works out his theory with a fullness of knowledge and an ingenuity which make his little book most interesting and stimulating reading. The theory has important practical applications. If a skin-disease persists when the operation of the primary cause has ceased to be due to the formation of a bad habit, the indication clearly is to eradicate the habit. How can this be done? By the use of certain remedies, such as arsenic, antimony, phosphorus, zinc, and so forth, the action of which is ill-defined, and hence is expressed by a term of corresponding indefiniteness. They are called "alteratives" because they are supposed to change something in the economy in some way that makes for betterment. That they do good is a fact confirmed by the universal experience of mankind; how they do it is a question that still vexes the scientific mind. Hence it is the fashion in these days of higher scientific criticism to doubt the usefulness of alteratives. But practical-minded men will, I think, agree with Professor H. C. Wood that "to deny, as has been done, the existence or value of medicines of this class because we cannot tell why mercury relieves syphilis, or why iodide of potassium cures rheumatism, is as absurd as to deny the existence of the syphilitic or rheumatic dyscrasia because they do not know their ultimate nature." Dr. Creighton's explanation of the action of alteratives upon chronic skin-diseases is at least plausible. He says: "Their action is simply to break the habit, to banish the usurping memory, to give the indwelling or proper action of the part its long-deferred opportunity of coming in again." But to discuss this fascinating theory here would take me too far out of my way. There is a story of a Cambridge tutor who said to a metaphysical undergraduate who showed an inconvenient curiosity as to the meaning of the Greek philosopher whom he was construing: "Our business at present, sir, is to translate Aristotle, not to understand him." In like manner we have to do here with the effects of alterative remedies in skin-diseases, not with the manner in which these effects are produced.

ARSENIC

Among the alteratives that are particularly useful in skin-diseases, the first place must be given to arsenic. With that drug I would group antimony and phosphorus. Whether or not those substances can be said to "pluck from the memory" of other

parts of a body "a rooted sorrow," there can be no doubt that they "raze out the written troubles" of the skin in a number of diseases in which other agents are powerless. In regard to arsenic, this is so well recognized that many practitioners apply to it Hoyle's famous rule for leading at whist: when in doubt they give arsenic. Now the notion that arsenic is a panacea in skin-diseases is simply a mischievous superstition. It is a most valuable remedy if properly used, but in many skin-affections it is useless, while in some it does harm and may even be dangerous.

I do not propose to inflict upon you a full account of the physiological and therapeutic properties of arsenic. Indeed the physiological properties, so far as they have been ascertained, throw very little light on its action in diseases of the skin. Our knowledge of its use in this department of medicine is chiefly empirical. It was used as a secret remedy in skin-affections long before it was adopted into the fold of orthodox practice. There is no mention of it in the first edition of Willan's famous treatise on cutaneous diseases, though Bateman, in his edition of that work, published in 1819, speaks of Fowler's solution as being extremely beneficial in most cases of lepra, owing to its power of supporting the strength and stimulating the cutaneous vessels. Rayer, in his "*Traité des Maladies de la Peau*" published in 1826, mentions arsenical preparations among the remedies useful for chronic cases of almost every form of skin-disease; in the introduction, however, he says that "for his own part he ardently hopes that experiments of another description, put to the same test, may cause these violent remedies to be superseded by external medicines more rational, more immediate in their effects, and less dangerous." Arsenic was warmly and somewhat indiscriminately recommended by mid-century writers of the English and French schools. Hebra, however, as might have been expected from his thoroughgoing belief in local treatment, was more critical in his estimate of its therapeutic value; but he admitted that in psoriasis arsenic had a decidedly curative action, and had the effect of making the disease undergo involution for a time, if not permanently. He also found it useful in lichen ruber, but in regard to eczema he says, "I cannot concede to arsenic the undefined blood-purifying and eczema-curing powers which are attributed to it by English and French physicians."

In the first edition of Erasmus Wilson's work on "*Diseases of the Skin*," arsenic does not figure conspicuously among the

remedies recommended. It is mentioned with several others as being suitable for chronic and obstinate forms of eczema, and the following somewhat vague account is given of its action: "Arsenic, when it acts on the nervous system, performs the part of an alterative, but when its effects are directed upon the membrane of the kidney, namely, by counter-irritation, by exciting inflammatory action in the interior and thus determining from the surface."

From these quotations it will be seen that the belief in arsenic as a universal specific in skin-affections which some years ago had almost established itself as a tradition in the medical profession is of comparatively recent origin. Any one interested in the history of its use will find the subject set forth in considerable detail in an article which I contributed to the *Practitioner* many years ago.⁸ It may there be seen that the drug in relation to the therapeutics of the skin has had a somewhat checkered history. Its success in controlling one or two forms of skin-diseases has led to its being tried at one time or another in all. It has been used by some too timidly, by others too recklessly; it has been unduly extolled and it has been as unduly depreciated. We in these days, like those who have gone before us, employ it mainly on empirical grounds. But our empiricism has a wider basis, consisting of our experience added to theirs. Let us consider what this experience teaches as to the internal use of arsenic in skin-diseases. If I appear to speak dogmatically, you will remember that I am here to place before you the facts which I have myself observed and the general conclusions to which these observations have led me.

First of all, let me state as a cardinal rule of practice that arsenic should never be given in acute conditions; it only serves to fan inflammation to a fiercer glow. This general principle applies to all forms of skin-disease. It is in chronic conditions alone that the "alterative" properties of the drug find a proper field for their activity. Another rule in the administration of arsenic is that it should be given in very small doses at first. The practitioner will do well to feel his way cautiously with the drug, increasing the dose gradually according to the tolerance displayed by the patient. During a course of arsenical treatment the patient should always be kept under close observation, and the drug should be discontinued as soon as any constitutional symptom referable to its use—such as coryza, redness of the eyelids, conjunctival injection, gastric or intestinal irritation—is observed. A better effect is

often obtained by discontinuing the administration of arsenic for a short period from time to time, thus, as it were, "breaking the habit," that might be induced by too continuous use.

Another point which should never be lost sight of is that arsenical medication, if too long persevered with, may produce effects as troublesome as, or even worse than, the disease which it is intended to cure. The prolonged administration of the drug or its use in excessive doses is likely to produce deep-brown pigmentation of the skin and thickening of the epidermis of the soles and palms. Not long ago I showed at the Dermatological Society a woman who had been treated for lupus erythematosus with arsenic; the drug had been pushed till all trace of the disease had disappeared. The arsenic had, so to speak, swept the skin clean of the original affection, but in place of it had brought chronic changes of a different kind, pigmentation extending over the whole of the body, keratosis of the palms, and loss of hair. Hutchinsonson has described corn-like growths, sometimes assuming a malignant form, which he considers to be the result of a prolonged course of arsenic. Peripheral neuritis is another well-known consequence of over-drugging with arsenic.

Apart from such consequences of the abuse of arsenic, it must not be forgotten that the possible influence of idiosyncrasy must be reckoned with. In certain persons arsenic, even if given with all proper precautions, produces eruptions of various types—papular, vesicular, urticarial, pustular; sometimes even boils and carbuncles.

Lastly, a word should be said as to the form in which the drug is best administered. For most purposes Fowler's solution is the most convenient preparation. It is unquestionable, however, that better effects are often obtained by the administration of arsenical waters, such as La Bourboule and Levico, than by solutions of arsenious acid. The good effect of these waters is due to the relatively small amount of arsenic which they contain; small doses of the drug can thus be given for a long time without producing any toxic symptoms. Arsenical waters taken internally, however, do not protect against relapse so effectually as when administered in the form of baths. The good effect in the latter case is due not so much to absorption of the drug as to its action on the nervous system through the cutaneous nerves. Some American dermatologists, however, prefer arsenious acid or arseniate of soda, and recommend that the remedy should be given after, not during, meals. In France the usual plan is

to give Fowler's solution (from 2 to 10 or 15 drops in the day) or arseniate of soda in granules of 1 milligramme, or in solution in such a way that 2 to 10, or even 20, milligrammes are taken in the day.

Passing now from the general to the particular, the disease with regard to which arsenic most nearly fulfils the idea of a specific is pemphigus vulgaris. Here, if anywhere, we can speak at any rate without glaring absurdity, of working the "miracle of cure;" and yet even in pemphigus arsenic sometimes fails. I generally give it in the form of Fowler's solution, beginning with 3 minims thrice a day, and increasing the dose gradually to 5, 7, 8, and even 10 minims, making a total daily amount of 15 to 30 drops. When after a fair trial arsenic proves ineffectual, it may be supplemented or replaced by quinine, opium, phosphorus, ichthyol, or belladonna. In other bullous eruptions arsenic is more uncertain than it is in pemphigus. It is often useful in cheiropompholyx, either alone or in combination with iron. In dermatitis herpetiformis it is more efficient than any other remedy—"yet that's not much," as Othello says, for that mysterious disease is but slightly influenced by drugs of any kind. Yet arsenic does to some extent favorably modify the process in certain cases, but too often such good as it does is only of a transient character. Smaller doses of arsenic are required in dermatitis herpetiformis than in pemphigus. Another affection in which the good effects of arsenic are frequently strikingly manifest is psoriasis. It is true that this disease can often be successfully dealt with by the local application of chrysarobin or pyrogalllic acid, and indeed these agents are, as a rule, so effective that arsenic internally is not required. In young children, however, strong external remedies are dangerous, and for them arsenic is the drug "of election."

In young persons suffering from a first or second or even third attack arsenic is to be preferred. It is also most useful in adults when the process is very chronic and non-inflammatory type. In such cases I usually give Fowler's solution freely diluted, beginning with a dose of 3 to 4 minims, after meals, three times a day, increased by degrees up to 10 minims. Kaposi administers arsenic in "Asiatic pills," of which the following is the composition: Arsenious acid grn. 66 $\frac{1}{2}$, powdered black pepper grn. 540, gum arabic and water q.s., to be divided into 800 pills, each of which contains grn. $\frac{1}{16}$ of arsenious acid. He begins by giving one of these pills three times a day, and the number being gradually increased

to ten or twelve in the day. The treatment is continued, if necessary, for several months, I presume, with intervals of suspension. If after the patient has swallowed 500 or 600 pills, no marked effect is visible, the remedy is considered to have failed. Arsenic is contraindicated in psoriasis when the eruption covers the whole or a large part of the cutaneous surface.

In eczema the sphere of usefulness of arsenic is much more restricted. Here it is still more necessary to emphasize the warning already given that the drug does harm rather than good in acute cases. It is especially likely to be beneficial when small chronic patches which resist local treatment remain as a legacy from an acute attack. In certain cases in which a nervous element is clearly present the drug is also likely to be of use: this remark applies with special force to those cases in which eczematous outbreaks alternate with attacks of asthma. In seborrheic eczema as a rule arsenic is not required.

In lichen ruber planus arsenic is often of great value, but it must be given in large doses, and its use must be continued for a considerable time. Kaposi, following Hebra, looks upon this drug as a specific in this disease. To children he gives Fowler's solution, beginning with two drops daily and increasing the dose by very slow degrees, and to adults he gives the Asiatic pills aforesaid in much the same manner as in the case of psoriasis. As a rule no improvement is perceptible before a period of six to eight weeks has elapsed, in which time the patient will have taken from 200 to 500 pills. He goes on taking eight to ten pills daily till his skin is almost clear of any trace of the disease, when the daily dose is gradually reduced to six pills, which he continues to take for three or four months after his integument is to all appearance sound. I agree with Besnier, however, who, while admitting that arsenic often gives satisfactory results in lichen, says that in some cases it fails, while others get well without it. I do not doubt the efficacy of this treatment, carried out under the supervision of the distinguished dermatologist of Vienna. I venture, however, to congratulate him on the perseverance of his patients, an essential factor in the success of the treatment which it would be difficult to secure among the stiff-necked generation with whom we have to deal in this country. I may add that in my opinion the use of arsenic in such heroic doses is hardly to be recommended anywhere as a routine practice.

In rosacea arsenic is seldom of use; indeed is generally harmful. In lupus ery-

thematosus it is said by some to be useful. In chronic urticaria when unaccompanied by intestinal irritation the symptoms are much mitigated, and a cure is often effected by a course of arsenic. Zoster runs a definite course uninfluenced by drugs, but the neuralgic pain which frequently persists long after the disappearance of the eruption may be greatly relieved, especially in elderly patients, by the internal use of arsenic.

Other conditions in which the internal administration of arsenic is beneficial are a peculiar inflammation of the lips, which become troublesome owing to the frequent relapses which occur, and atrophy of nails without eruption elsewhere. In both these conditions the drug should be given in small repeated doses.

Lastly, there can be no doubt that in certain cases sarcoma can be favorably modified by large doses of arsenic. I have myself seen a case of malignant disease of this nature cured by the internal administration of arsenic in large doses; and similar cases have been recorded elsewhere.

To sum up: Arsenic is far from being a specific in skin-disease, but, on the other hand, it is not the delusion and the snare which, under the influence of a reaction from the exaggeration of Hunt and other enthusiasts, it is sometimes said to be. In the words of Brocq,⁴ "it has precious properties if one only knows how to use them; it has a real action on the mucous layer of the epidermis, and it is indicated in all scaly, dry, non-inflammatory dermatoses." It is significant, however, as showing the unsatisfactory nature of our knowledge of the use of arsenic in skin-diseases, that while agreeing with the general statements just quoted, I cannot subscribe to the opinion which the eminent French dermatologist goes on to express: that arsenic is "above all efficacious in lichen ruber planus and in the dermatitis herpetiformis of Dühring, diseases of which it may be regarded as the specific." That no doubt represents his experience. I have told you mine. You must "try all things" for yourselves.

ANTIMONY

As to the other two drugs which I have grouped with arsenic as useful "alteratives" in diseases of the skin, there is less to be said. Antimony, which I venture to claim some credit for having at least to a certain extent popularized in dermatological practice,⁵ is as much the drug "of election" in acute eruption as arsenic is in chronic conditions. It is especially indicated when the arterial system is in a state of great tension. Small doses of the vinum antimoniale quickly relieve this, and, as a consequence,

subdue or markedly reduce the local inflammation. In acute eczema, if the patient is otherwise healthy, I generally begin by giving 10 to 13 drops of the wine, repeating the dose an hour later, and if there be still no abatement of the symptoms, again two hours afterwards. The administration is continued at gradually lengthening intervals, while the dose is diminished till a limit of 6 drops is reached. This should be continued three times in the twenty-four hours as long as the acute symptoms persist. In acute forms of psoriasis, and particularly in cases where the subjective symptoms are very pronounced, I also find antimony of great service; here I give the wine in somewhat smaller doses (min. v-x thrice daily). In the early stages of dermatitis herpetiformis, erythema multiforme, and generally speaking in all forms of cutaneous affection when the inflammatory phenomena are very prominent, antimony is most useful.

It is important to note that antimony has a twofold action according as it is given in large or in small doses. In large, that is to say relatively large, doses it controls vasomotor disturbances, lowers the blood-pressure, and so, as already said, reduces inflammation. In smaller doses its action has an "alterative" character similar to that of arsenic. In certain conditions, as in painful irritable psoriasis, chronic eczema with relapses, I find the remedy very valuable given in very small doses and continued for a considerable period of time. Antimony is contraindicated in depressed conditions of the system, and in all cases in which its administration is continued for any length of time, a careful watch must be kept on the patient's state, especially in regard to the heart's action. It must also be remembered that in some cases the internal use of antimony is followed by the appearance of vesiculo-pustular and urticarial eruptions; occasionally the rash is varioloid in character.

PHOSPHORUS

On the action of phosphorus in skin-affections we have hardly any precise knowledge, even of an empirical character. It is useful chiefly in conditions in which the nervous system requires support, as in the later stages of dermatitis herpetiformis, in certain cases of pemphigus in which arsenic has been found wanting, in eczema of the neurotic type, in psoriasis, and in lupus in nervous subjects. The general principle of its use is that it should be given in small doses combined with iron, strychnine, or quinine, as may seem appropriate, in all cases of skin-diseases associated with neurasthenia.

IODIDE OF POTASSIUM

I need not dwell on the virtues of iodide of potassium in the late syphilitic affections of the skin. There are, however, other diseased conditions of the integument in which it is useful. Haslund regards it, when given in very large doses, as almost a specific in psoriasis. I have no experience of this treatment, but am inclined to look upon the beneficent effects of the drug as due to its "lowering" action. Psoriasis, as is well known, appears to require a substratum of robust health for its full development; the removal of this by anything which causes depression is likely to be followed by abatement of the disease. Erythema keratodes has been known to yield to iodide of potassium administered in an erroneous diagnosis of syphilis. In actinomycosis the drug often has a curative effect so marked as almost to warrant one in calling it a specific. The administration of the drug should be begun at the earliest possible moment, and in order to get the full effect it must be given in full doses. Beginning with 10 or 15 grn. three times a day, it should be steadily pushed to 20, 30, 40 grn., and even larger doses if necessary.

In connection with this drug it may be pointed out that in its administration, as in that of other remedies, much depends on the vehicle in which it is given. Iodide of potassium is in my experience much less efficacious when given in water than when given in decoction of sarsaparilla. It also acts well when given in coffee, tea, or brandy and water; it is, in fact, more quickly absorbed and better assimilated in such vehicles. I have often seen severe cases of late syphilis in which iodide of potassium in water was inoperative, but quickly effected a cure when given in tea, coffee, or sarsaparilla. The same statement holds good regarding quinine and biniodide of mercury.

THE SALICYLATES

Salicin and salicylate of soda have recently been highly praised by a leading dermatological authority, Dr. Crocker, as the most useful of all internal remedies in nearly all forms of psoriasis. I have tried it in what appeared to be suitable cases, and I can only say that I have never found it of much use. I have also tried salicin in lichen ruber planus without success. The drug has occasionally seemed to be of some service in eczema, not in cases of the seborehmic type but rather in those with a nervous origin. In erythema nodosum salicylate of soda in doses of from 10 to 15 grn., according to the age of the patient, is useful if there is any evidence of a rheumatic taint.

THYROID EXTRACT

This agent has been credited with effects little short of marvelous in psoriasis and some other affections of the skin. Here, again, I am unable from my own experience to confirm the reports of Dr. Byrom Bramwell and others. The thyroid did in some cases seem to influence the condition for a time, but the effect after all was slight and extremely transient. Moreover the remedy is, especially in elderly persons with weak hearts, distinctly dangerous, and even in healthy people it is apt to cause a grave systemic disorder.

INTERNAL ANTISEPTICS

I pass next to an important class of remedies which, for convenience of grouping, I will call "internal antiseptics." The part played by derangement of the digestive apparatus was doubtless greatly exaggerated by dermatologists of the older school, who found in that a convenient explanation of all sorts of skin-affections. That toxic substances circulating in the blood do produce eruptions on the skin is shown by the effect of many articles of food, notably shellfish, in causing urticaria, and by the action of many drugs which cause medicinal rashes. It is highly probable that like effects are produced by toxins secreted by micro-organisms in the stomach or intestine. I have myself no doubt that ptomaine-poisoning is accountable for some skin-diseases, notably some varieties of erythema, perhaps lichen ruber planus and some forms of eczema. The skin-lesions produced by intoxication of the kind referred to are probably reflex phenomena due to the action of the poison circulating in the blood upon the nerve-centers. Unfortunately, the relation between ptomaine-poisoning and diseased conditions of the skin is still very imperfectly known; it seems to me to offer a good field of investigation to the pathologist.

As examples of internal antiseptics, I will take mercury and ichthyol. Salol is also very useful, but need not engage our attention here, as it is employed on general principles which are familiar to every practitioner. These remedies have a threefold action: (1) on the stomach and intestine, (2) on the blood, and (3) on the skin. They disinfect the gastro-intestinal canal, increase the number of red corpuscles in the blood, and subdue reflex irritation of the vasomotor system in the skin.

MERCURY

Taking mercury first, it is now recognized that, if given in small doses frequently repeated, it is a useful tonic, promoting metabolism and making the blood richer in

red corpuscles. The specific action of mercury on the poison of syphilis need not be dwelt on here. In acute skin-diseases, as a general rule, calomel is most useful; but it should not be given in all cases as a kind of ritual observance which must on no account be neglected. The indiscriminate administration of aperients in inflammatory affections of the skin is one of the most serious abuses of internal remedies. It is when the attack is not only acute but general that calomel is most serviceable; this is particularly the case in regard to eczema. Biniodide of mercury I have found to be of the greatest service in hypertrophic forms of lichen planus. I prescribe it as follows: ℞ Liq. hydrarg. perchlor., $\frac{3}{4}$ j; potass. iod. grn. v; decoct. sarsæ co. ad. $\frac{3}{4}$ j. M. fiat mist. Sig. Two tablespoonfuls three times a day after meals. This remedy has, as I have said, given most satisfactory results in the generalized form of the disease; in the chronic localized form it is useless.

ICHTHYOL

Ichthyol disinfects the stomach and intestine and checks flatulence. It also causes an increase in the number of red corpuscles somewhat similar to arsenic but to a slighter extent. Further, by its action on the nerve-centers it controls the vasomotor reflexes; it is, therefore, useful in the erythemata, and generally speaking in congestive conditions. I usually begin by ordering 5 grn. in capsules, tabloids, or pills, to be taken on an empty stomach early in the morning and late at night or after meals. In a few days I increase the dose to $7\frac{1}{2}$ grn., and afterwards to 10 grn. and upwards until the desired results are obtained. Its efficacy is sometimes increased by the addition of small quantities of quinine. This combination is very useful in controlling the flushing of the face and other vascular disturbance of the menopause. It may be given in the forms of a pill as follows: ℞ Ichthyol, grn. iij.; quin. sulph., grn. $\frac{1}{4}$. One or two to be taken after each meal.

Ichthyol in doses of two or three grains gives relief in pruritus; in urticaria it is generally most useful in gradually increasing doses. It is of service in lupus erythematosus by reducing hyperemia. Its peculiar power of controlling local circulatory disorder makes it particularly useful in rosacea, marked improvement becoming manifest within a few days of the commencement of the administration.

NERVE-SEDATIVES

Another class of internal remedies which are of the highest use in the treatment of skin-disease is nerve-sedatives. These I

am compelled to pass over very rapidly. First among them is opium, which is indicated in all conditions when the nervous symptoms are pronounced. In eczema, in lichen, and in all cutaneous affections in which itching is a prominent symptom, nervous excitement combined with loss of sleep tends to exhaust the patient. Opium in small doses counteracts this. In bad cases it may be advisable to keep the patient almost continuously under the influence of opium or morphine. In such cases the constipating effect of the drug should be counteracted by giving a mild aperient, such as Carlsbad salts, Friedrichshall, or other saline purgative in the morning. If prostration is marked, quinine may with advantage be combined with the opium. If opium disagrees, chloral, sulphonal, or phenacetin may be substituted for it.

TUBERCULIN

Although tuberculin is not in strictness an "internal remedy," it still less comes under the head of local treatment. I may, therefore, say a few words about it here. I have given it both in its original and in its improved form (TR), and I am compelled on the whole to report against it. In lupus it undoubtedly modifies the process in a marked degree for a time, but the effect is not lasting. The new tuberculin at first appeared to act like a charm, and I confess I was deeply impressed by the immediate results.⁶ But the new tuberculin has already proved as disappointing as the old; in all the cases in which it seemed at one time likely to effect a cure the disease has recurred and their last condition is just as bad as their first. One good effect may, however, be claimed for tuberculin. If used as a preliminary to surgical treatment it modifies the process in some way which I do not profess to explain, but which makes surgery more permanently effectual than it otherwise would be.

Of the serum-treatment as applied to syphilis, leprosy, and one or two other affections, I am unable to speak from any experience of my own. I may say, however, that the reports of those who have tried the remedy do not encourage me to follow their example at present.

CONSTITUTIONAL TREATMENT

Of constitutional treatment in the ordinary sense it hardly falls within my province to speak here. I may say, however, that a great deal too much has been made of the necessity for treating "diatheses," real or imaginary, which are supposed to have an etiological relation to skin-disease. As has quite recently been said by no less an authority than Professor Virchow, the

diathesis theory is largely a confession of ignorance of the true cause. We know, indeed, that certain constitutional states—notably gout and diabetes—are often associated with morbid processes on the skin, but no amount of "constitutional" treatment will alone cure eczema, psoriasis, or lupus erythematosus, or any other skin-affection. Gout, diabetes, and debility must, of course, be dealt with by appropriate remedies in patients afflicted with skin-diseases as in others. In short, constitutional treatment is a useful—if you will, a necessary—adjuvant to dermatological therapeutics; but it can never be a substitute for remedies, internal or external, which have a special action upon the skin.

CONCLUSION

In conclusion, I must apologize for the discursive and, I fear, superficial character of this address. I have not attempted to deal with the subject exhaustively; to do this would require not an address but a course of lectures. Many drugs that are well spoken of by authorities I have not mentioned. I have confined myself to a rapid review of those which I habitually use and find beneficial. However little value this report of my own practice may have, it is, at any rate, more profitable than a compilation of the experience and opinions of others. In dermatology, as in every other department of medicine, progress has been greatly hindered by blind adherence to tradition and authority. Tradition tends to keep alive superstitions like the "constitutional" bogey; authority creates fallacies of its own. These, as has been pointed out, largely spring from an unscientific use of a multiplicity of remedies, which leads to effects being attributed to wrong causes. Voltaire says, speaking of magic: "It is unquestionable that certain words and ceremonies will effectually destroy a flock of sheep—if administered with a sufficient quantity of arsenic." We have still a vast amount of "words and ceremonies" to get rid of in dermatological practice before we learn to use with precision the arsenic or other agent which is the efficient cause of cure in skin-diseases.

For my own part I say with Hebra: "I set not the slightest value on any remedies except those which (after repeated trials, and when I am accurately acquainted with the complaint) I find to produce a favorable change in its course, or, in other words, to cure the patient. I never attribute therapeutical powers to a medicine, unless I observe its employment to be invariably and constantly followed by some change in the morbid products, and by the termination of a disease in a shorter time

than when it is allowed to undergo spontaneous involution."

NOTES AND REFERENCES

1. "General Remarks on the Practice of Medicine." A series of articles written and published in the *British Medical Journal* during the years 1861, 1862, and 1863; "Collected Works," New Sydenham Society, London, 1878, Vol. II, p. 512.
2. "Unconscious Memory in Disease," London, 1896.
3. "The History and Therapeutical Value of Arsenic in Skin Diseases," Brocq et Jacquet, *Précis Élémentaire de Dermatologie*, Pathologie Générale Cutanée (L. Brocq), p. 104.
4. See a paper read by me at the Liverpool meeting of the British Medical Association, 1883.
5. See a report of six cases of lupus vulgaris treated with Koch's new tuberculin, *British Medical Journal*, July 24, 1897.
6. "Diseases of the Skin," New Sydenham Society Trans., Vol. XI, p. 89.

Cure of Gastro-intestinal Hemorrhage in a New-born Child with Large Doses of Calcium Chloride

L. A. Parry (*Jour. de Cliniq et de Thérap. inf.*, No. 31, Aug. 4, 1898, p. 606) reports the following case: A first child of parents free from hemophilia, vomited red-black blood exactly 72 hours after birth. Three stools of same character followed at 2-hour intervals. Next day vomit was free from blood, but four stools repeated the previous day's experience. The third day there were 4 stools again of the same character but with less blood. The child became anemic.

1. The hemorrhage was not due to instrumental pressure, for it did not occur in the first three days.

2. Buhl in 1861 described a condition of acute fatty degeneration as causing hemorrhage in infants born in asphyxia, cyanosed and showing extravasations of the skin and mucosa with general edema and death in a few weeks. All these were absent, except the hemorrhage, in this case.

3. Hemophilia may cause intestinal hemorrhage. This case shows no hemorrhages elsewhere.

4. Blood may come from a fissure of the breast in the mother or a lesion of the child's mouth.

5. Changes in the stomach and duodenum described by Goodhardt may cause hematemesis, always fatal.

6. Intussusception may cause melena but not hematemesis; there are tumor and mucus in the stools.

7. Congestion of the pelvic veins may cause melena immediately after birth.

Such cases are usually treated with ergot, iron, etc., but most of them die in spite of everything.

This patient got very frequent doses of five grains of calcium chloride after the second day of the hemorrhage, every hour by day and every two hours by night, until the fourth day, when the dose was given every two hours during the day. In all, 160 grains were taken.

H.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Tuberculous Peritonitis Treated by Tapping and Injections of Oxygen

At the meeting of the Medical Society of Lyon (*La Méd. mod.*, Vol. IX, p. 118) presented a patient who had been brought to him with the diagnosis of tubercular ascites, but whose general condition was so low that he considered laparotomy contraindicated. The patient's history was very bad; five years ago he had to undergo an operation for the removal of a tuberculous testicle; he then developed a number of abscesses in the abdominal wall, and a year later he underwent a resection of the wrist. He was now tapped about every two weeks and at each tapping about 12 liters (1½ gallons) of a turbid liquid were removed; after each tapping oxygen was injected into the peritoneal cavity. Under this treatment the effusion became less and less, and finally disappeared. The patient's general condition improved to such an extent that he resumed his work. (Whether the improvement is a permanent one or not remains, of course, to be seen. At any rate, the method deserves further trial.) R.

The Clinical Importance of the Position of the Stomach

H. W. Beltmann (*Clev. Med. Gaz.*, Vol. XIII, No. 8, p. 443), after having devoted considerable time in the post-mortem room and in the clinic to the position of the abdominal viscera, presents some of the conclusions reached during that time. The author has made it possible to study the normal position of the stomach by esophagotomy soon after death, and introducing a stomach-tube through the esophagus into the stomach, the latter being then filled with one and one-half to two quarts of water. The tube was then clamped and the abdominal cavity opened. In children of both sexes and in adult males normal position is invariably the case. In adult females, however, the normal position is met in only a small minority of cases. In most adult women the pylorus is movable to the extent of one to three inches, so that it can be easily drawn below the free margin of the liver, and owing to this displacement downward the stomach in women assumes a more vertical position, and the lesser curvature, instead of being entirely covered by

the liver, may come to lie in direct apposition to the anterior abdominal wall. In the large majority of adult females, therefore, the stomach is prolapsed, and in about 10 per cent. of adult males the same occurs. No method which takes only the greater curvature into account can be considered a reliable method of diagnosing dilatation; and the differentiation between prolapse and dilatation can be made only by locating the position of the lesser curvature. The writer is of opinion that corsets and skirts fastened about the waist play the chief role in its production. The symptoms of gastropexia lie largely in the domain of nervous dyspepsia. Often a state is reached in which the patient becomes a pronounced invalid, and in which the stomach, intestines, and one or both kidneys are markedly prolapsed. Each patient must be treated on lines determined by a study of the patient; in other words the physician must individualize. The warning conveyed by the writer is against the indiscriminate diagnosis of dilatation in cases of simple prolapse of the stomach.

Sub-pleural Ecchymoses and Legal Medicine

That sub-pleural ecchymoses have no medico-legal significance is the conclusion reached by Dr. Prof. Strassmann in the *Vierteljahrsschrift f. gerichtliche Medizin* (Vol. 3, 1898, p. 241). He states that they may be found in almost all conditions in cases where death is sudden or where the disease leading to death has been prolonged. They also are not a sign of convulsions. They indicate perhaps that death results from respiratory paralysis rather than from cardiac paralysis, and thus tell maybe something of the kind of death, but nothing of the cause. They certainly are not diagnostic of death by strangulation.

Some Points in the Diagnosis and Treatment of Heart-disease

F. A. Packard (*Mass. Med. Jour.*, Vol. XXXVIII, No. 25, p. 435) states there are two considerations to which too little attention is paid, and in discussion upon cardiac therapeutics and diagnosis pathological anatomy is too prominently considered at the expense of pathological physiology. In so far as treatment is concerned it is far more important to determine the manner in which the heart is performing its functions than to be able to state exactly the morbid anatomical condition present. The writer illustrates his meaning by the following examples: A heart may be seriously altered from the normal by the

presence of obstruction at the mitral orifice, as evidenced by the presence of a presystolic murmur heard in the neighborhood of the apex, while by an extension of the area of cardiac dullness to the right, one might positively assert the existence of cardiac enlargement. Again, without the presence of a cardiac murmur the heart may be found, upon physical examination, to be decidedly larger than in health; to determine whether the enlargement is due to hypertrophy, to dilatation, or to a combined dilatation and hypertrophy, can only depend upon the manner in which the work of the heart is being performed. The by-no-means rare cases where percussion shows a normal area of cardiac dullness, and where auscultation reveals no sign of valvular lesion furnish a third example; yet such a patient may be the subject of serious symptoms referable to the heart. It is seen, therefore, how limited is the scope of knowledge gained by physical examination of the precordium as compared with the data regarding ultimate diagnosis of the physiological power of the heart and, consequently, of the line of treatment to be adopted. One of the most difficult points to determine positively in examining the heart is the correct interpretation of the meaning of the murmur in certain cases of anemia. Accentuation of the second sound at the pulmonary area, which is of much value in estimating the extent of mitral disease, is unfortunately of little value in eliminating anemia as a cause of the murmur, inasmuch as the same loudness of this sound is found in many cases of severe anemia.

In general terms it may be said that the serious character of a cardiac lesion cannot be told by the strength or weakness of a murmur, inasmuch as on the autopsy-table are frequently seen extensive lesions that had caused but slight murmur during life, and, on the other hand, a comparatively trivial alteration from the normal, which, during life, had produced an extremely loud abnormal sound. One of the most difficult lesions to detect positively during life, and one of the most frequent post-mortem surprises, is total obliteration of the pericardial cavity from a former pericarditis. Pericardial effusion can, as a rule, be readily determined by the characteristic pear-shaped area of precordial dullness and by the apparent elevation of the apex-beat, as also by careful percussion of the angle formed by the lines of dullness of the right border of the heart and the upper surface of the liver, this angle becoming decidedly obtuse.

To determine the relation of heart-force and peripheral resistance, the pulse must

not only be counted and the strength of the impulse-wave determined, but the tension of the pulse must be estimated by rolling the artery under the finger and by applying three fingers instead of one. Aside from the rather rare congenital property of some hearts to intermit, intermission of the pulse, with irregularity in time and rhythm, is of value in giving us a guide for the estimation of the degree of degenerative changes in the myocardium. Finally, regarding the edema of cardiac disease, the writer asserts it is chiefly of interest from the insight it gives regarding the propulsive power of the heart and of the arteriole-walls, together with the various secondary factors in the proper maintenance of the peripheral circulation.

Copious Lavage with Hot Water in Acute Purulent Otitis Media

E. Menière (*Bull. méd.*) advocates employment at the outset of acute purulent middle-ear disease a douche twice a day with large quantities of hot water in the middle ear, carrying it in a strong stream through the Eustachian tube and allowing it to find its exit through the external meatus. He has found excellent results follow, in some cases in very short time after commencing this treatment, ending up in cicatrization of the tympanic membrane and preservation of hearing.

Indications and Contra-indications for Massage of the Abdomen

Boardman Reed, in a brief monogram advocates the use of deep abdominal massage (*pétrissage*) for its influence on the digestive processes claiming that it increases the tonicity of the abdominal as well as of the stomach and intestinal muscles and promotes the glandular functions of both stomach and intestines, regarding neurasthenia as a special indication. He had shown in previous papers that a meat diet and tonic remedies tend to increase the secretion of HCl and that small doses of HCl given after meals for a period of from four to six weeks also augment the secretion of HCl by the stomach. He cites a case of gastric catarrh, in which an excess of HCl was reduced under treatment to .04 and .05 per cent. Three weeks of abdominal massage twice daily had increased the HCl to .114 per cent. In another case a percentage of .065 was in one month raised to .091 and total acidity from 54 to 59 by abdominal massage alone.

He finds this treatment useful in chronic gastritis or carcinoma; gastrectasia not due to anacidity or subacidity, except in acute

gastritis, or carcinoma; gastrectasia not due to cancer; atonic conditions of stomach-walls with or without dilatation; displacements of abdominal organs: a. gastropptosis; b. nephropptosis, unless kidney is tender on pressure; c. enteropptosis; chronic intestinal catarrh without deep ulceration; dilatation of the intestines; constipation.

The contra-indications are: Ulceration in stomach or intestines; cancer of any of the abdominal organs; acute inflammation of any part of intestinal tract; hyperchlorhydria; prolapsed sensitive kidneys; aneurism of abdominal or thoracic arteries; in excessive menstrual flow; in fatty degeneration or marked dilatation of the heart.

In addition to these Boas mentions a condition of tense recti muscles as a contra-indication; but the author dissents if the massage is gentle instead of the tapotement which Zabludowski employs.

He reminds us that in most women and in dyspeptics the stomach-line and colon are below the umbilicus. Their position should be determined before commencing massage. If found thus displaced the author recommends massaging in opposite direction to that usually employed, i. e., from right to left below and from left to right above.

In chronic gastric catarrh give massage in the morning after the patient has taken one or two glasses of water fasting.

Chronic Varicose Ulcer of the Leg

E. La Place (*Pa. Med. Jour.*, Aug., 1898) believes that permanent cure will result only after complete obliteration of all the superficial veins. In some cases the superficial veins of the leg are persistently dilated as well as the long and short saphenous veins; here the author applies a catgut ligature to these veins as they enter respectively the saphenous and popliteal veins. As the two first-mentioned veins drain the whole of the venous circulation, their ligature results in a simultaneous stasis and coagulation of blood within all the superficial veins, and their obliteration soon follows. But when great masses of enlarged veins form on the limb and do not affect the saphenous vein above the knee, Schede's method is preferable. A circular cut is made about two inches below the knee, and directly through the skin, separating all the veins as they present themselves, clamping them and subsequently ligating them with catgut. The circular cut is then carefully sutured. Syphilis and tuberculosis may complicate. The author makes an excellent suggestion concerning the Thiersch method of skin-grafting. Those who have done this operation may

remember failure due to the grafts being dislodged when dressings are removed. Dr. La Place would remove all but the last layer of the dressing and would irrigate and re-dress without removing this. G.

Treatment of Simple Gastric Ulcer

Gaston Lyon (*Bull. méd.*, No. 25, 1898), before the Therapeutic Society of Paris, pointed out the new interest attaching to the treatment of gastric ulcer since the time of Cruveilhier, by the recent invasion of this domain by surgery. Two factors seem now to be regarded as causing ulcer: (a) a lesion of mucous membrane from varying causes; (b) action of hyperacid gastric juice upon this lesion hindering cicatrization. Uncomplicated ulcer is deserving of purely medical treatment, meaning by complications, severe hemorrhages, uncontrollable vomiting, abscesses, intercurrent perforation. The chief therapeutic indications are these:—

1. To secure cicatrization of the ulcer (a) Rest of the organ: milk diet—the "*Ruhe-cur*" of the Germans, milk with cream, half a glass every three hours at the outset, then a whole glass, finally a glass every two hours as the patient gets better.

Limited use of rectal alimentation alone in prolonged hematemesis or uncontrollable vomiting with violent pains from pyloric spasm. The best borne is a glass of milk with the yellow of two eggs beaten into it and a pinch of salt and perhaps a few drops of laudanum added, and occasional douches with plain warm water.

(b) Rest in bed for from two to three weeks obligatory.

(c) Lavage of stomach with 200 gme. (3vi) of water, or warm milk, containing 10 to 15 gme. (3iiss to 3iv.) subnitrate of bismuth. This controls vomiting and severe pains.

2. The second indication is to oppose the provoking cause, hyperchlorhydria.

Wet hot compresses over stomach. Morning drafts of saline solutions at 40° C (104° F), 250 gme. (3viii) increased by 3iiss every day, to be taken in 3 doses, 20 minutes apart. Or, a glass of water at same temperature to which is added at first one afterwards two teaspoonsful of the following salt:

Bicarbonate of Soda.....	40 gme. (3x)
Sulphate of Soda.....	40 gme. (3x)
Chloride of Sodium.....	20 gme. (3v)

This diminishes secretion of HCl and aids digestion.

Treatment of symptoms.—Hemorrhages require temporary stoppage of milk diet. Ice is given. Morphine is injected hypodermically. In severe hemorrhages, ligature

legs, inject ether, caffeine and other stimulants and above all the artificial serum (200 to 500 gme.— $\frac{3}{4}$ vi to $\frac{3}{4}$ xvi). Pain exceptionally requires a narcotic. Alkalies 10 to 30 gme. (3 iiss to $\frac{3}{4}$ i) act as a sedative, but soda should be supplemented by bismuth, if needed, often as it tends ultimately to hypersecretion of HCl. Chalk and calcined magnesia may well be substituted, one part of the latter being the equivalent of 4 of soda for neutralizing HCl.

Anemia is treated in convalescence by the perchloride of iron, by arsenic, by baths and by a sojourn to the country.

In convalescence recourse to mixed diet should slowly be taken up, employing at first the most nourishing and least harsh substances—eggs well done, powdered meat, roast lamb. The treatment with saline solutions should be begun at the end of two weeks and continued for 20 to 25 days.

Surgical treatment.—Gastro-enterostomy produces best results in hypersecretion of HCl with ulcer. It stops contraction of pylorus, where that causes retention of food and irritation. The indications for it are:

1. Insufficiency of above medical treatment well tried for a reasonable period to ameliorate.

2. Incessant hemorrhages.

3. Perforation; subphrenic abscess; adhesions.

4. In stenosis persisting and causing grave trouble. The physician can radically cure 71 per cent. of these cases and ameliorate 2.19 per cent. H.

Muscle-changes in Recurrent Paralysis

E. P. Friedrich (*Fortschritte der Medicin*, Vol. XV, p. 769) reports the microscopical findings in a case of left-sided recurrent nerve-paralysis due to an aortic aneurism. This had persisted for three and one-half years. Microscopically the crico-arytenoid posticus was markedly atrophied. Microscopically the paralyzed muscles showed simple atrophy without any fatty degeneration. This atrophy was strongest for the posticus, less in the vocalis, and slightly developed in the lateral crico-arytenoid and thyro-arytenoid. The crico-thyroid and interarytenoideus were normal. The muscle of the normal side showed an increase in the muscle-nuclei indicating increased activity. J.

Influence of Adenoids on the Development of Certain Lesions of the Skeleton

M. Bilhaut at the session June 8 of the Therapeutic Society of Paris stated (*Bull. méd.* No. 51, June 26, 1898, p. 617) that voluminous adenoids were very commonly

found in cases of scoliosis and he believed it likely they were related as cause and effect, especially as removal of them early suffices of itself to bring about cure of the condition. In the most serious cases, removal of the adenoids should precede orthopedic measures where the latter are necessary to supplement the former. He likewise thinks that the deformity known as hour-glass thorax described by Dupuytren is due to trophic disturbances from microbe-infections gaining access by way of the adenoids. Finally, he regards the consistence of certain forms of tuberculosis with adenoids as being due to the germs gaining access through the adenoids. Their early removal would obviate such infection. H.

The Urine as a Diagnostic Factor

Dr. Kernode (*Tri.-State Med. Jour.*, p. 369, August, 1898) concludes an article with the above title, with the following succinct rules, first formulated by Dr. Formad and verified by many investigators:

1. Sediment in the urine has no significance unless deposited within twenty-four hours.

2. Albumin in the urine does not indicate kidney-disease unless accompanied by tube-casts. The most fatal form of Bright's disease—contracted kidney—has little or no albumin.

3. Every white crystal in urine, regardless of shape, is a phosphate, except the oxalate-of-lime crystal, which has its own peculiar form; urine alkaline.

4. Every yellow crystal is uric acid if the urine is acid, or a urate if the urine is alkaline.

5. Mucous casts, pus, and epithelium signify disease of the bladder (cystitis) or of other parts of the urinary tract, as determined by variety of epithelium.

6. The urine from females can often be differentiated from the urine of males by finding in it the tessellated epithelium of the vagina.

7. Hyaline casts (narrow), blood, and epithelial casts signify acute catarrhal nephritis. There is much albumin in this condition.

8. Broad hyaline casts and epithelial dark-green granules and oil-casts signify chronic catarrhal nephritis. At first, much albumin; later, less.

9. Hyaline and pale granular casts, and little or no albumin, signify interstitial nephritis.

10. Broad casts are worse than narrow casts, for the former signify a chronic disease.

11. The urine should be fresh for micro-

scopical examination, as the micrococci will change hyaline casts into granular casts, or devour them entirely in a short time.

12. Uric acid may, in Trommer's test for sugar, form a peroxide of copper, this often misleading the examiner into the belief, that he has discovered sugar. Thus when urine shows only sugar, other methods of examination must be used—preferably, the lead-test.

13. The microscope gives us better ideas of the exact condition of affairs in examination of urine, than the various chemical tests.

R.

Psoriasis

J. V. Shoemaker (*Pa. Med. Jour.*, August, 1898) observes that psoriasis of the scalp does not cause baldness. The causes of this disease are from within, and can generally be traced to some morbid condition of the blood or disturbance of the nervous system. The author has found that the rheumatic or gouty diathesis frequently underlies an attack. Local measures are of secondary importance, and internal management depends upon the origin in each case. In all cases the patient must be placed under the most favorable hygienic conditions. If the cause lie in disturbance or lesion of the nervous system remedies exercising a beneficial and nutritive influence upon nerve-tissue are indicated. Electricity, static or galvanic, will be found valuable. Massage, moderate exercise, baths, diaphoretics, and the salicylates, iodides and sulphur in cases depending upon rheumatic diathesis are appropriate agents. The bowels and kidneys must act normally. Drugs which disarrange digestion will do more harm than good. Locally, loose the scales by the use of water, oil, a poultice or a general bath. Ointments of tar, carbolic acid, creosote, turpentine, sulphur or salicylic acid may be used. Chrysarobin and pyrogallol are powerful agents, but have conspicuous disadvantages. G.

Colitis in Children—Treatment

Dr. Guion (*Rev. Mens. des Mal. de l'Enf.*, pp. 113, 243, 1898) distinguishes three varieties of colitis in children—acute simple, dysenteriform, and chronic. The first variety is most frequently met with in hot weather and begins with fever, vomiting and diarrhea. The stool is small, consisting mainly of mucus streaked with blood, has a very offensive odor, and is accompanied by tenesmus. In these cases milk and all solid food should be withdrawn, and broths and thin gruels only given the child,

or barley-water beaten up with a white of an egg. Hot compresses should be kept constantly applied to the belly, and a warm bath may be given twice a day. To check the diarrhea a single enema containing opium may be administered; antipyrin, and if this fails, chloral may be given to relieve pain. After the subsidence of the acute symptoms small rectal injections of warm, mild antiseptic solutions should be made.

The stool in the dysenteriform colitis consists of mucus mingled with blood, at times resembling the rusty sputum of pneumonia. There are considerable fever, severe colic, marked tenderness over the colon, accompanied by contraction of the abdominal muscles. Ipecacuanha with a little opium given in small doses every two hours is the best remedy in these cases. If after about three days the stools have not assumed a fecal consistency a copious injection of warm solution of silver nitrate (grn. ij—Oj) is indicated. In case of collapse subcutaneous injections of artificial serum (physiological salt-solution) should be given; the quantity to be injected not exceeding one pint in twenty-four hours.

In the chronic form special attention must be paid to the regulation of diet. It may be necessary to withdraw milk for some time. Constipation must be avoided. Calomel in small doses and a simple mixture of hydrochloric acid are the drugs most generally useful. Hot baths and hot compresses to the belly are very beneficial.

S.

The Eliminative Treatment of Typhoid Fever

D. W. B. Thistle, in an article in the *Med. Record* (September 10, 1898, p. 361), says that the rationale and the objects of the eliminative-antiseptic method of treatment of typhoid fever, first formulated and advocated by him, can be stated to be as follows:

1. To limit the original infection and intoxication of the system generally.
2. To carry away the toxic bile as it is poured into the intestine.
3. To promote elimination through the medium of the serous exudate into the intestine.
4. To promote excretion of toxins by the kidneys.
5. By lessening the toxemia, to increase the resistance and aggressive action of the tissues. (The author has before drawn attention to the fact that the aggressive and defensive action of the cells must be in inverse ratio to the degree of toxemia.)
6. To prevent excessive accumulation of bacilli (typhoid bacilli, colon bacilli, etc.)

and toxins in the intestinal glands, thus lessening the likelihood of extensive necrosis and ulceration and the dangers incidental to that condition.

7. By maintaining the intestine as free as possible from bacilli and toxins, and frequently cleaning it out to lessen the work thrown on the liver from the portal side, and thus to enable it to exercise its depurative function more fully in the interception of poisons in the general circulation.

8. To lessen the chance of death from exhaustion due to the long-continued action of large quantities of poison on the tissues.

9. To lessen the amount of poison in the body and avert the danger of death from excessive accumulation of toxin, *i. e.*, acute toxemia.

10. To prevent the discomfort and danger arising from the accumulation of gases in the intestine.

11. To prevent or control diarrhea. Whether the diarrheal flux be due to bacilli or irritant matter in the intestine, or is the physiological result of toxic substances in the system, in either case the action of purgatives should be beneficial. In the one case the irritants, whatever their nature, are removed; in the other the systemic toxemia is lessened.

12. By keeping toxemia at the lowest possible point the functions of digestion and assimilation are less interfered with and nutrition is better maintained. As to the results of the treatment, the author says that the mortality is lowered in a marked degree. He instances the record of the Toronto General Hospital, where the vast majority of cases of typhoid were treated either on the eliminative plan or by means of calomel and salines or other purgatives freely and frequently given. No selection of any kind was made and there was no attempt to make a record. One of the deaths occurred on the day the patient was admitted, but no cases are excluded from the list. In the four years from 1893 to 1897 there were 563 cases, with 37 deaths; 6.57 per cent. mortality. R.

Chronic Laryngitis with Unusual Etiology

F. C. Ewing (*Tri-State Med. Jour.*, p. 316, 1898) reports the following case, which he considers interesting on account of the unusual etiology: The patient, a lady of 45, consulted the author for great hoarseness of long standing, for which she had been treated by several physicians without benefit. On examination the vocal cords were found very red and the adjacent laryngeal parts congested. There was a

slight ellipse between the cords on phonation, showing that the thyro-arytenoid muscles lacked tone. Close questioning shed no light upon the cause of the condition. The author began treatment in the dark (applications of silver nitrate). Later, he learned accidentally that the patient had a boy whose hearing was so impaired from an attack of scarlet fever in infancy that in speaking to him—he was her constant companion—she had to raise her voice to a very high pitch. That this continued strain was the real cause of the hoarseness and inflammatory condition of larynx and cords was demonstrated by the treatment. The doctor ordered a conversation tube for the boy and told the patient to speak in a lower register. She also used the following inhalations:

Ol. Pini Sylvestris	3iv
Ol. Origanum	3jss
Eucalyptol	3ij
Menthol	grn. xlv.
Naphtalin	grn. xv.

The improvement was steady and the cure complete. The patient was seen several months later, and had had no return of her trouble. R.

Two Attacks of Temporary Hemiplegia in the Same Individual Following Use of Hydrogen Peroxide in a Sacculated Empyema (Pleural)

E. G. Janeway (*Am. Jour. of Med. Sciences*, October, 1898, p. 420) gives the interesting history of a case of temporary hemiplegia occurring immediately after the injection into the pleural sac of a wineglassful of hydrogen peroxide. This paralysis of right arm and leg lasted twenty-five minutes and then passed away completely. Three days later he had a similar attack, this time involving also the neck and head (which dropped) and causing difficulty in breathing. No air or fluid escaped after introduction of the peroxide. Dr. Janeway refers to similar cases mentioned in the work of L. Bonveret on empyema, Paris, 1888, a series of embolic, slow paralytic, syncopal and convulsive cases following empyema, one of which he gives in detail because of its similarity to the one described above. Similar features were found in a case which Dr. L. Forgues reported in the *Arch. de Méd. et Pharm. milit.* (1894, Vol. XXIV). In neither case was there any aphasia.

The most natural explanation for attacks such as these cases give would be to suppose that something had passed into the circulation to produce anemia of the left side of the brain, or a portion of it. Cases with convulsions would better be explained by embolism; but embolism has not been

found post mortem in some fatal cases. These three cases above referred to are the only ones in which collapse and temporary hemiplegia have been the sole phenomena. Reflex action has been invoked to explain the phenomena through contraction of the cerebral arteries or inhibition, or incitation of the cerebral cortex, with hemorrhages when paralysis coexisted. That would not avail in these three cases, for but one had aphasia, though all three were right hemiplegias, requiring a narrower area to be affected in two of the cases than in the third. And intoxication would not be admitted with peroxide of hydrogen.

The author supposes, as a most plausible explanation, an embolism of such a nature as to soon disappear—air or gas. The conditions in these three cases were such as to produce some pressure within the sac—liberation of oxygen from peroxide in the author's case, measuring size of sac in Lendet's case, change of tube with lavage in another case, pressure to hold tube in place in lavage with Dr. Forgues' case. May not air or gas under the conditions have gained entrance through the radicles of the pulmonary veins in stretched or torn granulation-tissue during forced inspiration? The amount so taken up would be too small to cause death by its accumulation in the heart.

Prof. Lewin, in *Archiv. fur exper. Path. and Pharmacol.*, Vol. XL, found that air entered the circulation readily through the renal veins and could be heard in its passage and observed in the vena cava and aorta by means of a laparotomy previously performed. He thinks the air penetrates preferably by the lymphatics into the vein by preformed paths, not of necessity through torn openings. H.

Erysipelas Treated by Burning

Ten years ago Dr. S. Rabinovitch called attention to a method of treatment of erysipelas very much in vogue among the common people in Bulgaria. Now he relates his experience with this method in 200 cases of erysipelas (*Terapevtichesky Vestnik*, June 11, 1898). The method has given the most brilliant results. In not one case out of the 200 did it require more than five days to terminate the disease; in many cases he succeeded in aborting the disease in twenty-four hours. The method of procedure is as follows: The affected part is covered with a piece of wet gauze; a piece of absorbent cotton, soaked into alcohol is held in pincers and ignited; the flame of the burning alcohol is passed over the erysipelatous parts to and fro "as long as the patient is able to

stand it." This "burning" is repeated three times at one seance and the seances are repeated three times a day. The flame causes a very considerable local elevation of temperature and occasionally also blisters; blisters as a rule are found only then when the disease itself is accompanied with a production of such. Where a very large surface is affected, for instance, the entire spine, then the alcohol flame is applied chiefly to the borders of the affected part. In erysipelas of the head, even when accompanied with very high temperature, the author never employed the ice-bag; he used the same method of burning, and convinced himself that even on the head this method is perfectly harmless; the general temperature not only did not become elevated, but on the contrary became several degrees lower. R.

Molluscum Fibrosum

This lesion, states J. V. Shoemaker (*Pa. Med. Jour.*), is now understood to develop from the fibrous meshes surrounding and supporting the dermal fat-globules; it probably begins beneath the skin; molluscum fibrosum, or fibroma molluscum, or molluscum pendulum generally consists of multiple growths; 4503 tumors have been found upon one person. The disease usually begins in childhood; it sometimes seems to be hereditary; besides appearing in the skin the tumors have been found upon the tonsil, the gums, the tongue and the palatine arch; pressure or tension may produce inflammation and ulceration, resulting destruction of the growth and a residual scar. The only disease resembling molluscum fibrosum is molluscum epitheliale, which is a rounded tumor of a pinkish tinge and a waxy or glistening aspect, not unlike that of a pearl button. The treatment of molluscum fibrosum is surgical—excision, ligation, galvano-cautery or electrolysis; the last method is the best in most cases. The cure is very tedious indeed. G.

Pathogenesis of Rickets

M. Babeau (*Jour. de Cliniq. et de Therap. inf.*, No. 38, September 22, 1898), from clinical observations and from analyses of urine and feces, concludes:

1. We can in rickets distinguish several periods:

(a) A primary rachitic period in the course of which a child up to that time healthy eliminates lime in excess, either by the urine or by the feces.

(b) A secondary period of confirmed rickets (properly so-called), during which are produced deformities and spontaneous frac-

tures consequent on this exaggerated loss of lime.

(c) A third period without abnormal loss of lime by urine or feces, the deformities being the sole indications of an anterior rachitic period in a subject whose nutrition has become normal again.

2. In each of the phases of the disease we establish a relation between the chemical composition of the bones and the variable elimination of lime in these different phases.

3. In most rachitics we find digestive troubles at the outset of the disease.

4. The increased elimination of lime by the feces is explained by these digestive troubles themselves and is due to defective absorption of the lime or its salts.

5. The increased elimination of the salts of lime by the urine is due to a state of acid diathesis (Baumel).

6. The cure results from a re-establishment of the normal state of the digestion, of the absorption, and of the alkalinity of the blood.

H.

Causation the Factor in Treatment

An article with the above title, by F. Tucker, Md. (*Jour. of the Am. Med. Ass.*, June 18, 1898), considers this subject.

What seem to be causes of death in the natural course of events (*i. e.*, in old age)? What differences in structure would we find between the body of an individual having died of old age and that of a new-born child? The main difference would be found to consist in a great increase of the fibrous structures of the body over the cellular elements, so plentiful in the young. We find this increase of fibrous tissue to be located principally in the walls of the arteries and in the immediate neighborhood of the capillaries, particularly among those which ramify throughout the glandular organs and nervous structures—a disseminated sclerosis. Now, the nutrition of the tissues depends on the integrity and functional activity of the blood-vessels. The increase of fibrous tissue must hamper the activity and impair the function of the vessels as well as of the glandular structures in which they run.

Of the three developmental layers of the body the two external layers give rise to the epithelial tissues and nervous structures—the chemically active tissues and the tissues which coordinate their activities. The middle layer gives rise to the connective tissues, for purely mechanical function, and the sexual organs. In this middle layer the vascular area appears. From the endothelial cells lining the vessels the first fibrous tissues are formed, and even the fibrous

reticulum of the glandular tissues comes directly from the capillary vessels. Thus from the very beginning of life there is being formed a (fibrous) tissue which will in the end cause the cessation of life. If this be true, then anything which increases the tendency to form fibrous tissue hastens death. Such are most chronic diseases.

The author ventures to say that all diseases arise from either 'infection or disorders of nutrition. Cirrhosis would come under the head of a disorder of nutrition. Infectious diseases tend to get well of their own accord, the inherent forces of the tissues overcoming the infection and preventing great disorder of nutrition. Where the infection is too great and disorders of nutrition are produced, the production of fibrous tissue is increased, as illustrated in the sequelae of scarlet fever, typhoid fever, etc. Syphilis is infectious, and yet its marked anatomic feature is the increase of fibrous tissue, suggesting doubt of its curability.

The infectious microbes, being schizomycetes, are the seed, the tissues the soil, and the conditions of life the climate by which infectious diseases are propagated. The non-response of certain tissues and certain individuals to pathogenic bacteria is a question of soil; and this may be the matter of inheritance rather than disease itself, which would seem to be contrary to physiological laws.

Practice, at first founded on empiricism, a short time ago advanced to the higher ground of symptomatology. Now it is going beyond this and treatment and classification are being based on structural change, a step in advance; but the final goal will be a foundation on causation, attacking disease at its origin and results in prophylaxis, which aims at abolishing disease. Where the seeds can be excluded the soil and climate are less important. Puerperal fever and surgical septicemia are almost banished by excluding the germs from the soil.

The great desideratum is to see how the tissues themselves combat infection. A gonorrhea is accompanied by a discharge of pus and desquamation of epithelium, determined by excessive blood-supply to the affected mucous surfaces, with throwing out of quantities of leucocytes, the disease persisting as long as discharge keeps up. The object is to assist the tissues and not to stop the discharge, and this is what we do when we employ germicidal irrigation. It is important to discriminate between symptoms due to effort of the tissues to combat the infection and those caused by

the victory of the infection over the tissues, in order to know which to encourage and which to discourage. Even pain may sometimes be conservative.

Many of the so-called degenerations, mucoid, colloid, hyalin, amyloid, are now regarded by noted pathologists to be dependent on the formation of fibrous tissue. The fibrous tissue about the blood-vessels is a constant accompaniment of old age. We know it to be produced by the intima and not by the adventitia. The study of changes going on in capillaries is very difficult owing to quick necrosis; but analogous tissue, such as the endothelium of serous sacs, identical with the lining of blood-vessels, on slightest injury readily produces fibrous tissue and adhesions. Finding the cause of irritation to the endothelium of the blood-vessels might account for the production of a sclerosis. The blood is in the most constant contact with this endothelium. It carries the food which may be the irritant. "In other words, it is indirectly our food which eventually kills us."

The same thing is seen in the life of bacteria. The aerobic bacteria produce CO_2 , which finally kills them; the facultative bacteria are both aerobic and anaerobic; finally the anaerobic follow, each in turn being destroyed by the products of their own chemic changes. So that "that which is absolutely necessary to our existence eventually brings about our destruction."

Our greatest discoveries should lie in the direction of the chemic changes which go on in the cells during absorption and elimination and in the physical changes which they bring about.

H.

Varieties of Ordinary Chorea in Children and Their Treatment

L. G. Guthrie (*Treatment*, Vol. II, No. 1, p. 19, 1898) refers appreciatingly to the classifications of chorea recently given by Weir-Mitchell and J. W. Rhein in the *Philadelphia Medical Journal* (Vol. I, No. 4, 1898). They divide the motor symptoms of chorea into five clinical varieties:

1. Cases which show at some stage of the disease an absence of movements during rest—a rare variety.
2. Cases in which movements are continuous during rest but increased on voluntary effort. It is the usual type.
3. Cases with severe movements that disappear during muscular activity, suggesting temporary increased inhibition.
4. Cases in which movements are unaltered by voluntary muscular acts.

5. Cases which present more than one of the above types.

They regard chorea as affecting the motor areas of the brain. They regard some forms as due to more or less prolonged absence of inhibitory control over movements.

The writer suggests the following grouping of symptoms for treatment: (1) sthenic or explosive, characterized by violence and wide range of movements; (2) asthenic, or pseudo-paralytic, movements less evident, loss of muscular power, or loss of will-power to execute voluntary acts. Both groups may be "severe" and "mild."

The treatment of the sthenic varieties is mainly by rest and sedatives and sometimes by exercise and moral suasion.

The asthenic cases need rest, massage, stimulants, tonics, and nutritious food.

Choreic patients should be treated as rheumatics.

H.

Paralysis Agitans—Treatment of

In the treatment of the above disease Dr. R. Veerhagen (*Deutsch. med. Woch.*, Vol. XXIV, No. 24, 1898) strengthens the extensor muscles by powerful faradization and subsequent light massage, and tranquilizes the flexors by administering atropine sulph. 0.25 mg. combined with 0.2 gm. of ergot and applying galvanic current. In this manner he claims to enable his patients to resume their occupations without any inconvenience.

S.

Epilepsy of the Heart

In the *Wiener med. Wochenschrift*, 1897, Nos. 33-35, F. Mohnet calls attention to a particular form of affection of the circulatory apparatus for which he proposes the name Cardiac Epilepsy. It is a form of the group usually spoken of as senile-arterio-sclerotic epilepsy, characterized by epileptic attacks in well-advanced adults with well-marked arterio-sclerosis.

With reference to its etiology it would appear that the arterio-sclerosis induces a chronic anemia of the brain and that any irritation of its centers sets free the epileptic impulse. From another point of view he considers that the chronic inflammatory process in the walls of the cerebral vessels must of itself be an exciting irritant. Further the vessels affected by the endarteritis are thicker and more rigid than normal vessels and that as a result of each arterial impulse their physical movements should be taken into account. From both of these standpoints is the explanation of the epileptic condition to be accounted for.

J.

SURGERY

GEORGE B. WOOD, M.D.

VINCENT GOMEZ, M.D.

HEBER N. HOOPLE, M.D.

The Phelps Operation for Club-foot

J. J. McKone (*Med. Sent.*, October 1898) describes this operation for equinus varus. There is tenotomy of the tendo Achillis, with a free division of all the soft tissues on the inner side of the foot, the incision penetrating down to the bone and, if necessary, into the joints. All resisting tissue should be divided. The incision commences in front of the tip of the malleolus and extends about an inch downward. An Esmarch bandage is used; therefore all the parts can be seen and consequently the wound need not be very large. After division of all these tissues the foot is held in a corrected position; there then exists a wide gap, which is healed by the formation of the moist blood-clot, or Ichede's method. A piece of rubber tissue is placed over the wound, and this is covered by the usual gauze dressing, over which is placed the plaster-of-Paris splint while the foot is held in a corrected position. The Esmarch is removed and the foot elevated for a couple of hours. If too much bleeding occurs the wound must be re-opened, and bleeding parts controlled. The wound generally heals and cicatrizes over in about four weeks. The functions of the parts are fully restored and the results excellent. G.

The Transplantation of the Rectus Muscle in Certain Cases of Inguinal Hernia in Which the Conjoined Tendon Is Obliterated

Dr. J. C. Bloodgood (*Johns Hopk. Hosp. Bull.*, Balt., 1898, IX, 96-100) has suggested a modification of Halstead's operation for radical cure of inguinal hernia, of value where there is a congenital loss of the conjoined tendon. The writer states that there are two groups of cases depending on the presence or absence of the conjoined tendon.

Group A. Cases in which the conjoined tendon is present. This is easily ascertained by the sense of resistance offered to the examining finger when pushed up through the external abdominal ring.

Group B. Cases in which the conjoined tendon is obliterated. There is no resistance to the examining finger at the external abdominal ring, and it can be introduced without difficulty into the abdominal cavity for some distance.

The method of Dr. Bloodgood is to be

practised only with cases belonging to Group B. The operation consists in fastening the rectus muscle to Poupart's ligament that it may take the place of the absent conjoined tendon. The procedure is briefly as follows: The method of operation up to the insertion of the deep sutures is the same as in the ordinary Halstead method for radical cure. Then the strength of the rectus muscle is exposed and divided in the direction of the muscle-bundles from the symphysis upwards for a distance of 5 cm. The belly of the muscle is caught with two or three sutures to act as retractors and drawn outwards and downwards. The deep sutures of silver wire are then inserted in exactly the same manner as described in Halstead's operation, with the addition that the four sutures below the transplanted cord include the sheath of the rectus and the muscle; when these sutures are tied the rectus muscle is approximated to Poupart's ligament and the aponeurosis of the external oblique. T.

Catgut Sutures and Ligatures

Howard C. Kelly (*Med. News*, N. Y., 1898, Vol. LXXIII, pp. 293-294) says that, of all ligatures, catgut unites in itself the most advantages with the fewest drawbacks. The question of sterilizing catgut has been settled by the cumol method, "by which the hydrocarbon at a temperature of 155°-156° C. renders the gut sterile beyond a peradventure."

It is to be used in controlling hemorrhage except for large vascular trunks; in plastic work about the vagina where accurate approximation without tension is desired; in the abdominal incision the gut is used in conjunction with silver wire, the wire taking the tension and the catgut securing accurate union. "The best way to use catgut in the genito-urinary apparatus is to bury the entire suture in the tissues lying outside the mucosa; treated in this way they act like buried catgut sutures at any other point." T.

The Aseptic Treatment of Wounds in Ophthalmic Surgery

Dr. A. McGillivray (*Brit. Med. Jour.*, March 19, 1898), in a paper read before the Ophthalmological Society of the United Kingdom, referred to the changes in the treatment of wounds brought about by Lister, and spoke of recent modifications in method. These modifications consisted chiefly in reducing the strength of the antiseptic solutions used for douching purposes, and the adoption of heat-sterilization for instruments and dressings. But

when the importance of the natural antiseptic property, or natural immunity, of living tissues came to be more appreciated, some surgeons discarded chemical antiseptics in operations altogether, on account of their deleterious action on the tissues of the wound, and adopted sterilized physiological saline solution, as it produced no irritation, but tended to keep the tissues as nearly as possible in their physiological condition. Antiseptic solutions, however weak, irritated or benumbed the cut tissues of a wound, and thus their natural immunity became impaired. But the antiseptic solution employed during operations had no germicidal properties unless when kept in direct contact with the micro-organisms for several hours or even days—a very undesirable procedure even if possible—so that their action was purely mechanical, and, so far as the removal of micro-organisms was concerned, was limited to those on the surface, just as in the case of douching with normal saline solution. The position, then, of the aseptician and antiseptician was perfectly clear. The aseptician, by employing normal saline solution for douching purposes, and studiously preventing any chemical antiseptic from coming in contact with the wound, trusted to the inherent antiseptic properties of the tissues themselves in warding off or destroying any micro-organisms that might have been left in, or that found access to the wound subsequently. The antiseptician, on the other hand, by employing antiseptic solutions, impaired or destroyed the natural antiseptic property of the tissues, so that they were thus less able to cope with micro-organisms. A description of the operation for the removal of senile cataract was taken to illustrate aseptic technique in ophthalmic operations. From the time the patient entered hospital till he was discharged, no antiseptic was allowed to come in contact with the eye. The patient's face was carefully washed on the morning of the operation with warm water and soap, special attention being paid to the folds in the skin of the eyelids. The eyelashes were cut short, so as to allow the margins of the lids to be more easily treated and to prevent the eyelashes from coming in contact either with the instruments or with the wound during the operation. By means of a special douche the conjunctival culs-de-sac were flushed with sterilized salt-solution (6-per-cent.). The eyelids were in turn everted so as to allow their conjunctival surfaces to be carefully cleansed. This was of the utmost importance, as the conjunctival surface of the upper lid was the innermost, and therefore the most important,

part of the dressing. After applying the speculum, the part of the eye corresponding to the wound was again douched, and the patient enjoined not to rotate the eye upward till the operation was completed, so as not to allow the wound to come in contact with the margin of the eyelid for fear of contamination. Mechanical cleansing of the conjunctiva with a mop was soon discontinued, as it produced undue irritation. All instruments, lotions, mops, and dressings were sterilized by heat, so that everything that touched the eye was aseptic. Before removing the speculum the eye was douched with a gentle stream of salt-solution, the solution being allowed to play over the wound to remove any cortical or capsular débris. Some of the solution invariably found its way into the anterior chamber, and was valuable in removing soft lens-matter without causing irritation. The dressing consisted of a piece of moist lint applied next the eye, and one or two thin layers of absorbent cotton-wool, the whole being kept in position by means of a vertical and horizontal strip of adhesive rubber plaster; only the operated one was covered. Throughout the operation, and also during the preliminary treatment, every attempt was employed to avoid irritating the conjunctiva as much as possible, because conjunctival irritation produced hypersecretion; for the nearer the conjunctiva was to its normal condition the better for operative interference. Our motto in dealing with the conjunctiva should be, "Let sleeping dogs lie." G.

"Setting-time" of Plaster of Paris

D'Arcy Powers and J. A. Belcher (*Treatment*) give results of experiments to determine a method of making plaster of Paris set rapidly enough to be of greater use in employing Calot's method.

The conclusion is that to make plaster of Paris set rapidly it should be mixed with a 5-per-cent. solution of common salt, or approximately a tablespoonful to a pint of water. H.

Perirectal Abscess

This name is given by Dr. A. B. Cooke (*Med. and Surg. Bull.*, Alumni Ass'n Med. Dept., Univ. of Nashville, June, 1898) to the disease commonly designated as ischio-rectal abscess. Fistulas would be rare were these abscesses properly treated. Perirectal abscess is a very frequent disease; the chief symptom is a dull throbbing pain; soon there follows constitutional disturbance—a chill is followed by fever, furred tongue, general headache, and malaise. The overlying skin becomes red, indurated, and

edematous. In neglected cases the brawny induration sometimes involves an entire buttock; or the inflammatory process may assume the character of an acute cellulitis and spread with great rapidity. These are grave cases, sometimes putting life in jeopardy. When the pus makes its way forward into the perineum, retention of urine from pressure may result. As to prognosis, fistula is to be expected if palliative treatment only is employed. Early and free incision, without waiting for the physical signs of pus, is indicated. General anesthesia is best, although in some cases cocaine alone was used by the author with good results. The bistoury should pass directly inward until pus oozes out beside the blade. As the knife is withdrawn the parts should be freely incised in a direction perpendicular to the transverse axis of the bowel; the cut should be across the radiating anal folds. The finger or curette should then be introduced and all loculi broken down. Hot 1-1000 bichloride irrigation should follow, and then light padding with iodoform gauze. The dressings are removed as soon as soiled and thereafter renewed daily.

G.

Hemorrhagic Sarcoma of the Thigh

A case of hemorrhagic sarcoma of the thigh is reported by Dr. D. M. Montgomery and Dr. Harry W. Sherman, of San Francisco, in the *Occidental Medical Times* (Vol. XII, No. 7). When first examined the history, in brief, was as follows: The patient was a man 41 years old, healthy and robust. Ten years previous he had been kicked by a horse in the right thigh. Since then he has had a swelling at this spot. The swelling had recently become painful and was apparently growing. Examination showed a mass about two inches in diameter at junction of lower and middle thirds of thigh, deeply seated in muscular structures, not adherent to the skin. No specific history obtained. He was put on mixed treatment for some months, but returned with the tumor enlarged, a result he thought of a blow he had received upon it. It was then incised and found to contain only blood-clot, which was cleaned away and wound closed. Three months later a second operation was done as the growth had appeared at the lower angle of the wound. Blood-cyst and some tumor-tissue were removed from the substance of the vastus internus muscle. Examination of this showed it to be a spindle-cell sarcoma. About six months later a growth reappeared in the wound and amputation of the thigh was done. A year and four months following the amputation and

about two and a half years after the tumor was first examined, the patient died from metastatic growth in the lung. At autopsy the left pleural cavity was found filled with blood-clot with only a small mass of tumor-tissue posteriorly. There was also a small amount of tumor-tissue in the right lung. U.

A Radical Operation for Femoral Hernia

A. Codivilleo (*Centralbl. f. Chir., Berl.*, 1898, XXVIII, 729-731) describes his operation for the cure of femoral hernia, as follows:

He makes a skin-incision along Poupart's ligament, and after dissecting out the hernial sac in the usual manner, lays free the inner border of Poupart's ligament, especially its place of insertion on the pubic bone. Then he cuts through the insertion of Poupart's ligament, thus rendering loose the lower pillar of the external inguinal ring and Gimbernat's ligament. The femoral ring is thus widely opened, making it easy to isolate the hernial sac and carry it upward. After tying off the sac at its highest point and drawing it upward, he then proceeds to make a solid and thick barrier wherewith to close the opening for the hernial protrusion. He cuts through the transverse fascia at the posterior border of Poupart's ligament, this bringing him directly into the inguinal canal. Through the passage thus made to the posterior wall, he prepares, just as in Bassini's radical operation for inguinal hernia, the anterior wall, which is formed of the three layers, external oblique muscle, transverse abdominal muscle and the transverse fascia. Then by an incision running parallel to the upper border of the pubic bone the ligamentum couperi is directed up from the pectineal fascia and muscle. By separating the edges of this incision a portion of the periosteum can be loosened from the bone. The musculo-aponeurotic layer is now drawn down towards the inner edge of the incision on the upper border of the pubic bone and with a few stitches is fastened to the ligamentum couperi and to the periosteum of the pubic bone. Poupart's ligament is brought in front of this suture-line and fastened to the outer edge of the above-described incision, which edge is made up of the pectineal fascia and muscle and the periosteum of the pubic bone. It is best to begin the suture external near the femoral vein. This operation just described is easily and rapidly completed. The wound is broad, and because of the room the operator has, the isolating and tying off of the hernial sac and the various other procedures are easily

carried through. The two rows of sutures which close the femoral canal are easily and rapidly put in with a curved needle such as is ordinarily used in laparotomies. The femoral vessels need not be disturbed, if after the separation of Poupart's ligament from the pubic bone, they are strongly retracted outward.

Since 1895 the author has done this operation ten times with good results. T.

Malignancy of Tumors

Dr. Harrison (*Quarterly Med. Jour.*, July, 1898) reviews the following theories of the cause of malignant growths:

1. The parasitic theory.—In the first place, from a priori grounds, it has been argued that the parasitic theory of malignancy has much to recommend it; thus the clinical history of sarcoma resembles in many ways tuberculosis, e. g., one may get a sarcoma at the end of the femur, as the result of injury, or one may get a tuberculous abscess, and in each case general metastasis may occur, producing general tuberculosis or sarcomatosis.

In a word, then, with regard to the germ-theory of malignancy, at the present time the negative evidence is abundant while the little positive evidence which exists will not bear criticism.

2. Cohnheim's theory.—Professor Cohnheim maintains the proposition that the tumors of the body are due to the awakened growth of embryonic rudiments that have remained over from the earliest periods of development, and have lain long latent in the midst of the mature tissues. Many of us die, he observes, with such rudiments in our bodies which have fortunately never grown to tumors.

3. The theory of Thiersch.—This author laid emphasis upon a fact which will always arrest attention, namely, that columns or cylinders of epithelial cells apparently continuous with a normal epitheliated surface, descend into the depths of the part and penetrate in all directions among the underlying tissues.

4. Hausemann's theory.—Hausemann says that each class of tissue-cells of the body has its own peculiar karyokinetic figure, and that these vary largely and in many ways, e. g.: one kind of cell may be distinguished by the length and sharpness of its nuclear spindle, or by the number, shape, and mode of distribution of the chromosomes, which may differ in a great variety of ways. But each type of cell retains its own form of mitosis—that is to say, the karyokinetic figures seen in the normal epithelium of the breast are always the same in all breasts, and are to be dis-

tinguished from the mitotic figures found, say, in the intestinal epithelium. From the mere examination of a microscopical preparation it is impossible to say with certainty very often whether it is normal tissue, an adenoma, or a cancer that we have under observation. If, however, we find the cells containing mitotic figures abundant, and if the figures differ from those of the mother cells, and especially if symmetrical forms are seen, then the diagnosis of malignancy will be assured.

5. Theory of "spermatic" influence of cells.—This theory assumes that the tumor-cells, whether epithelial or not, which by division have increased in number, assert an influence on the neighboring connective-tissue cells, causing them to split up and form cells of a similar type to those of the tumor.

6. Ribbert's theory.—He believes that cancer is caused by irritation, which causes single cells to become loosened and increase their proliferating power, while at the same time the resistance of the stroma to invasion by the growing cells is lessened.

7. Inheritance in cancer.—Modern statistics furnish some remarkable cases where cancer seems to be hereditary, e. g., Broca mentions a family where in one generation the mother died of cancer of the breast, and four of her daughters died of cancer; in the third generation, ten children from two marriages developed cancer; and in the fourth generation there was a cancerous daughter. Here, however, the cancer was not limited to one organ, but showed itself in breast, stomach, uterus, intestine, etc.

On the whole, however, the evidence of the true hereditary nature of cancer is not really strong, and is rejected by many eminent modern pathologists.

The writer concludes that we are not at present in a position to assign cancer to any one cause, and inclines to the belief that the cause of malignancy will only be explained when we know more concerning the cause of the development of fetal organs.

S.

Treatment of Subcutaneous Rupture of Large Arteries

Lejers (*Brit. Med. Jour.*, Oct. 1, 1898), who has collected from various sources 32 cases of traumatic ruptures of large arteries, and added to this list two cases treated by himself, insists on the importance in the early treatment of such injury of very careful disinfection of the skin of the limb supplied by the ruptured vessel. Gangrenous phlegmon, which so often causes serious and, indeed, fatal mischief

in such cases, owes its origin, the author holds, to the introduction of pathogenic microbes by small and superficial skin-lesions, which are apt to be regarded as of slight importance. It is thought that in some cases of ruptured artery, active surgical intervention, at an early stage, might be applied with good results. With abundant effusion of blood, it would be well to lay open the seat of injury with the objects of clearing away the clots, and of securing by ligature the ruptured vessel. Such treatment, which might have the further advantage of preventing peripheral embolism, has not yet been practised in cases of simple arterial rupture, and is suggested rather than advocated by the author. In cases in which gangrene has followed the injury to the artery, early and high amputation of the affected limb is urgently included whenever serious and threatening symptoms are developed. In conditions that are less alarming the author would endeavor to save the limb by a method of embalming, and resort to free incisions, injections of very hot water and the application of thick dressings saturated with alcohol. Such treatment, he states, will often give good results in apparently desperate cases. G.

Microscopic Diagnosis of Typhoid Fever

Dr. H. Stuart MacLean (*N. Carol. Med. Jour.*, Oct. 5, 1898) states that the absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians. Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure. The value of serum-diagnosis, as well as other methods, must be determined by the practitioner who controls the case upon which the tests are made. S.

A New Operation for Stone

The following procedures are recommended by J. H. Nichols (*Columb. Med. Jour.*, Vol. XXI, No. 8, 1898):

The patient is prepared for operation after the usual manner. The bladder is then washed out several times with a solution of permanganate of potassium. After the abdominal incision has been made the next step is to open the bladder above the peritoneum. A sterilized sound,

preferably one with a long curve, is passed into the bladder, carrying it well up in the wound. The bladder is then caught with the left thumb and finger and the anterior wall made tense, while the right passes a curved needle, threaded with catgut, in and out, which is used as a guy, and afterward serves as an anchor. A vertical incision is then made below the needle-entrance, sufficient in length to admit of one or two fingers. As it is not desirable to contaminate the surgeon's hands, it is well to have the assistant pass two fingers as far into the rectum as possible.

The stone is then grasped with the fingers or forceps and removed. The bladder is not sutured, but anchored with the catgut previously mentioned high up in the incision, causing tension on the wall which coapts the edges of the wound.

The abdomen is then closed in the usual manner. A catheter is inserted into the bladder through the urethra and left for a few hours, after which it must be passed often enough to prevent distension. S.

The Treatment of Fractures

Dr. W. L. Estes (*International Journal of Surgery*) says:

First. Unless a fragment is threatening to break through the skin it should never be reduced except by the physician, and then only when the parts can be kept in permanent apposition.

Second. Men carrying an injured person should not keep step, as the jar is greater.

Third. Strychnia should be given for shock, morphia for pain, but no alcohol.

It is very rarely necessary to make a patient go through the double agony of temporary and permanent setting of the broken bones.

In simple fracture gentle rubbing of the ends will assist in getting rid of shreds of tissue which are invariably caught there.

Nowadays a surgeon will rarely be satisfied that a bone is properly set until verified by the X-rays.

Plastic splints, preferably plaster of Paris are the best apparatus.

No simple fractures require constant confinement to bed, except of the innominate and upper third of the femur.

Do not wait for the swelling to disappear before putting on a permanent dressing.

A well-applied splint with good apposition of the fragments should not be removed too early. Proper time for massage is two or three weeks after fracture of upper extremities and four or five weeks for lower extremities. W.

OBSTETRICS AND GYNECOLOGY

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Appendicitis and Pregnancy

Pinard (*Sem. méd.*, March 23, 1898; ref. *Brit. Med. Jour.*, May 7, 1898) has collected forty-five cases of appendicitis complicating pregnancy, the diagnosis being confirmed in thirty by operation or post-mortem. He concludes that: (1) Appendicitis may attack a pregnant woman at the beginning or at any time during pregnancy in the puerperium. (2) In most cases it causes abortion. The child dies as a rule very rapidly from infection. (3) It is only possible to save both mother and child when the abscess is limited and encysted. (4) Every type of appendicitis may occur. (5) The diagnosis may be difficult, owing to the enlarged uterus, or still more so during the puerperium, but is usually possible with care. (6) Treatment consists in operating as early as possible. A preliminary induction of premature labor is unjustifiable, since pregnancy is not always interrupted if the mother recovers. (7) Prophylaxis consists in operating in every case of relapsing appendicitis in a young girl or non-pregnant woman during the period of sexual activity, to prevent future complications during pregnancy. G.

Orexine in the Vomiting of Pregnancy

Dr. Frommel (*Therapist*, June 15, 1898) has found orexine a very effective and prompt remedy in the vomiting of pregnancy. He used it in four cases. In two cases the vomiting ceased entirely in two days, and in the other two it diminished and ceased altogether in two weeks. R.

Medical Treatment of Puerperal Infection

Dr. Charles Jewett (*Am. Gyn. and Obstet. Jour.*, Nov., 1897) states that for the occurrence of sepsis in childbirth the attending physician must usually hold himself to blame. The causes are within control and puerperal sepsis is a preventable disease.

Prophylaxis must begin many weeks before the labor. Conditions predisposing to septic infection are debility, anemia, syphilis, rheumatism, paludal poisoning, toxemias of various forms, auto-intoxication from retained excrementitious products, pre-existing diarrhea, vesical or vaginal disease. Agonorrheal condition calls for douching twice daily with 1-5000 bichloride or 2-per-cent. lactic-acid solution. The healthy vagina maintains its own antiseptics, and

douching it during or after labor in conditions of health is unnecessary and injurious; by diluting the vaginal secretion and washing away the leucocytes, it interrupts for many hours the natural protective agencies. The liability to infection is greatest for a few hours after expulsion of the child, and the introduction of the hand then is a risk to be avoided if possible.

Curative treatment should be begun by careful exploration of vagina with speculum. Septic vaginal wounds should be cleansed twice daily, touched with tinct. iodine or 50-per-cent. carbolic acid or zinc-chloride solution, and dusted with iodoform. For foul discharges hydrogen-peroxide douches or a 10-per-cent. Laborraque solution should be given by the physician alone. Tardy involution and patent cervix are presumptive of septic or putrid endometritis. A dull curette is the best feeler for interior of uterus to bring away secundines where it is impracticable or inadvisable to employ the finger. For thorough evacuation of blood-clots and retained placenta the sharp curette is preferred, the curetting to be followed by packing with iodoform gauze for less than twenty-four hours, or better, by from two to six crayons of iodoform each containing 10 grains in glycerin and gum tragacanth. In virulent infection the curette and douche are too late to reach the infection. Pinard's statistics show reduction from .79 per cent. of septic deaths at the Maternité de Loxiboisière in 1885 to .27 per cent. in 1892 under curetting and douching. The systemic treatment calls for stimulants and tonics "to exalt vitality, increase the energy of vital reactions, and improve the soil in which the parasites grow," as Robin puts it. Feed only liquid foods. Increase function of elimination by free water-drinking and the judicious use of saline purgatives. Use ergot to limit diffusion of poison from point of sepsis. Antipyretics are abused. Cold sponging is indicated. The statistics of serum-treatment for puerperal sepsis are as yet inconclusive. Lavage of the blood by Hayem's normal salt-solution is rational, but has thus far proved of little practical value. H.

Sterility

W. Gill Wylie (*Tex. Cour.-Rec. of Med.*, July, 1898) considers disease of the endometrium and lesions of the adnexa to be the feminine causes of sterility. His paper deals with the endometrium only; where there is chronic endometritis and dysmenorrhea the treatment is as follows: Diseases of the adnexa are excluded by examination. The canal is divulsed, the uterus is thoroughly curetted and the au-

thor's uterine drainage-tube, which is of hard rubber and has deep grooves down its sides to facilitate drainage, is inserted. It should be $1\frac{1}{2}$ to 2 in. in length. Then an Albert Smith retroversion-pessary should be introduced to hold the cervix back; thus any contraction of the uterus will force the tube in and prevent its being expelled. The patient is kept in bed for a week. Then the tube is removed; after another week she may go home. Pregnancy usually follows. This operation may have to be repeated once or twice. G.

Study of an Early Placenta in Situ— Obtained from the Living

The following conclusions are based upon the observations made by Dr. M. Herzog (*Am. Gyn. and Obst. Jour.*, Vol. XII, No. 4, 1898) on a comparatively young placenta *in situ*, obtained under such favorable circumstances as to exclude with absolute certainty any and every post-mortem change.

1. In the amnion, near the insertion of the cord, there were found small cavities contained between two layers of amniotic mesoderm. It is possible that these small cavities are due to a reduplication of the amnion occurring at a very early stage of its foundation.

2. The chorionic epithelium, and that of the villi, presents itself in two very distinct layers, each of characteristic differentiating features. The Langhans "Zellschicht" has been found in a single cell-layer only, nowhere as a double or a triple layer. The epithelium does not possess a basement-membrane.

3. Plasmodial (syncytial) buds springing from chorion and villi are very abundantly found. Plasmodial islands in the intervillous spaces do not exist; what appears as such are buds separated from their bases by the direction of the cut of the knife.

4. Kastchenko's "Zellknoten" are likewise not at all islands floating in the intervillous space, but decidual and syncytial tissue detached from the decidua in the same manner as the buds are detached.

5. The chorion at the antipalacental pole still shows remnants of villi.

6. The decidua serotina, as well as the vera, show already patches of tissue in a state of coagulation-necrosis. Where this latter is manifest, there are found numerous leucocytes, many of which are in a process of nuclear fragmentation.

7. The decidua reflexa is in that stage of degeneration, as has been first minutely described by Minot.

8. Evidences are still found in connection with the decidua reflexa which prove

that it once was very vascular and that the intervillous space filled with blood once surrounded the whole ovum.

9. The decidua serotina is not throughout its whole extent lined with vascular endothelium, nor have chorion and villi such a lining.

10. Changed remnants of the original uterine epithelium are occasionally found on the surface of the serotina and everywhere on the surface of the vera.

11. The open spaces of the spongiosa, the changed uterine glands, show epithelium varying from the normal to a stage of complete degeneration, and these spaces are not filled with blood, but with mucoid or hyaline material, cell-remnants, and hyaline spheres.

12. The intervillous space contains maternal blood which in its corpuscular elements is very different from the fetal blood found in the blood-vessels of the chorion and villi.

13. The main if not the exclusive source of the canalized fibrin, is the maternal blood in the intervillous space.

14. In this space are also found numerous hematoidin crystals; these insoluble derivatives of degenerating red blood-corpuscles are in part carried into the uteroplacental veins, and from there into the general maternal circulation. They stand most probably in a causal relation to the comparative frequency of embolism and thrombosis during pregnancy and post partum. S.

Hernia of the Ovary

Dr. B. B. Browne thus concludes a paper on the above subject (*Maryland Med. Jour.*, July 9, 1898):

1. Hernia of the ovary, although not very common, occurs much more frequently than has generally been supposed.

2. Congenital hernia of the ovary is almost invariably associated with and caused by some arrest of development during intra-uterine life.

3. Congenital hernia of the ovary is always inguinal, often double, but when single generally on the left side; it is caused by abnormal descent of the ovaries analogous to the normal descent of the testicles, constituting anomalies rather than diseases, and coinciding generally with anomalies of the genital organs, such as embryonic uterus, uterus unicornis, hermaphroditism, etc.

4. The persistence of Nuck's canal favors its production; also the size and shape of the ovary, which is at first a long, flat body, with its apex pointing toward the canal; also the fact that at the birth of the child the

ovaries are yet situated above the ileo-pectineal line and descend during the first few months of the child's life into the true pelvis.

5. As congenital hernia of the ovary occurs so frequently as a result of arrest of development and borders so closely on pseudo-hermaphroditism, it is important in all cases that the glands when removed should be examined microscopically.

6. The sac in this hernia generally contains the ovary and Fallopian tube. It is irreducible, except soon after birth, on account of the adhesions formed and the early closure of the internal ring.

7. Accidental or acquired hernia may occur at any of the ordinary hernial openings, in which case it frequently follows a pre-existing intestinal or omental hernia. They are almost always unilateral, and more frequent on the right side. They are most apt to occur soon after labor, when the abdominal walls are relaxed and the uterus and ovaries are above the pelvic brim.

Therefore, women who suffer from any form of hernia should be carefully watched before, during, and after their confinements, so as to prevent and rectify any undue strain upon the weak point. R.

Curettage of the Uterus in Periluterine Affections

After a careful study of the subject, Dr. Ouimet enumerates the following conclusions (*La Clinique*, June, 1898): 1. Curettage cannot be adopted as a routine treatment for perimetritic affections, fibromata, or cancer, but it is of great service in a certain number of cases. As regards perimetritic affections, curettage gives very good results and has a really curative action in cases of catarrhal salpingitis as well as in certain cases of hydrosalpinx. Its curative action appears to extend to cases only in which congestion plays the greatest part. But in all perimetritic affections accompanied by profound and serious lesions, circumscribed or diffuse, of the perimetritic tissues or organs, curettage only gives palliative results or none at all. 2. Curettage gives good results in those cases of fibroma in which hemorrhage is a predominant symptom. Large fibromas, exhausting by their volume or producing grave symptoms by compression, are not amenable to this treatment, for then hemorrhage plays a secondary part, and it is against this feature that curettage is most helpful. As to the diminution of the tumor, it has been noticed several times at the end of the treatment.

3. In cancer of the uterus, when the neoplasm has involved the tissues too widely

to permit of a radical operation, and yet has not invaded the rectovaginal and vesicovaginal walls, curettage followed by cauterization seems to constitute the best palliative treatment to arrest, for some time at least, hemorrhage, pain, and fetid discharge. R.

Complete Atrophy of the Uterus Due to Vaporization

Dr. Baruch reports such a case (*Cent. f. Gynecologie*, No. 5, 1898). A woman of 27, a primipara, was treated with steam, according to Sneguireff's method, for severe menorrhagia. Complete cicatricial occlusion of the cervix, atrophy of the uterus, and the well-known symptoms of premature menopause followed. Apparently, vaporization of the uterus may occasionally prove as dangerous as the intrauterine zinc-chloride treatment. R.

Oophorectomy for Inoperable Breast-cancer

W. Watson Cheyne (*Brit. Med. Jour.*, May 7, 1898) reports two cases, in the first of which the operation had a very marked effect on the growth of the cancer, and was followed by distinct absorption or breaking down of the growth. The effect seemed temporary, however, for in six months the cancerous growth began again to enlarge. In the second case the cancer seems to have remained unaffected by the operation. Nevertheless it seems clear to the author that there is a distinct connection not only between the normal epithelium of the breast and the ovaries, but also between cancerous epithelium of the breast and the ovaries. The author believes, as Dr. Beatson, who originated the operation, suggests, that when removing the ovaries as much as possible of the breast and glands should be removed at the same time. G.

Meddlesome Gynecology

Doctor H. M. Lott (*N. C. Med. Jour.*, June 5, 1898) has written a timely and sound paper. The getting of a complete history of a case, with an appreciation of all its phases, is insisted on, and the practice of making only topical applications without considering possible conditions in other organs underlying and often causing the lesion which can be found on inspection is condemned. This, of course, is irrational but by no means unusual practice. Reflex phenomena may cause local lesions; therefore they should be sought. The author especially condemns the "routine" practice of topical application for ulceration (?) of the cervix, forcible dilatation, curettage, incising the cervix, etc. G.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Lily-of-the-Valley in Dropsy of Renal or Hepatic Origin

Dr. W. L. Janowski, of Warsaw, states (*Scm. méd.*, XVIII, p. 54) that he has found lily-of-the-valley to be useful not only in cardiac affections, but to be capable of rendering service also in certain forms of dropsy associated with Bright's disease or hepatic cirrhosis. In cases of chronic nephritis with considerable dyspnea, insufficient and highly albuminous urine, lily-of-the-valley, alone or in combination with caffeine, frequently brings about a diminution of the dropsical symptoms and albuminuria within two or three days. In hepatic cirrhosis, convallaria also at times favorably influences diuresis. The author prescribes the drug either in the form of infusion (1:20), in tablespoonful doses every two hours, or as an alcoholic tincture (1:12), in daily doses of from 45 to 80 drops. Ordinarily he employs the infusion first for two or three days, and then the tincture for two or three weeks, gradually reducing the dose. F.

Manganese Dioxide

A. H. Smith states (*Therap. Gaz.*, XIV, p. 191) that, among medicines having a specific action, there is none that has given him more satisfaction than manganese binoxide. For many years he has prescribed it constantly for functional derangements of the uterus, and with a smaller percentage of failures than from any other drug. It has been equally serviceable when the menses were too profuse or too scanty; when the interval between the periods was too short or too long. In this respect there is no term that describes its action so well as the word "corrective." In the absence of organic disease it seems to have the power, in a great many cases, of restoring the menstrual function to its normal standard in whatever direction the deviation may have been. The writer has repeatedly seen an habitual interval of three weeks lengthened to the normal twenty-eight days, or a usual duration of eight days, for example, reduced to four or five. On the other hand, irregular or abnormally long intervals have been brought to regular four-weekly periods, and a scanty flow to a satisfactory quantity.

In painful menstruation not dependent upon anatomical conditions, the writer has come to rely with great confidence upon the relief to be obtained from the dioxide. Beginning about four days before the ex-

pected period, and continuing until the flow is fully established, it will generally give a measure of relief for that time. It may, however, seem to be of little or no benefit on the first occasion, but if repeated for the next month an amelioration may be quite confidently predicted, and by perseverance during three or four periods complete and permanent relief is usually obtained.

The headache of a burning character limited to the vertex, so frequently of uterine origin, is often promptly relieved by two or three doses of the drug, administered at intervals of two or three hours, and this even when it occurs during the intervals of menstruation.

Finally, in the only instance in which the author has employed the dioxide for this purpose it gives decided relief to the hot flashes attending the menopause. If the patient takes 2 grn. at bedtime, she passes a fairly comfortable night, otherwise she wakes half a dozen times to find herself dripping with perspiration.

The author's experience with the drug convinces him that it controls in a marked degree the nervous disturbance emanating from the uterus. The effect is often too prompt to be attributable to a merely tonic action upon the general system, and he is forced to believe that it has a peculiar, specific relation to the parts involved. The dose is 2 grn. three times a day, but as it is absolutely without unpleasant effects, it may be given in much larger doses and at shorter intervals. For its effects on the periods, it should be given for three or four days before the expected time, and continued nearly or quite through the period, this being repeated for several consecutive months. F.

Therapeutical Applications of Colloidal Silver

Dr. Crédé (*Deut. med. Ztg.*, XIX, p. 736) recently advocated the use of colloidal silver for various purposes. The forms employed were pills, bougies, solutions, and ointments. The pills each contained 0.01 gme. ($\frac{1}{4}$ grn.) of colloidal silver, 0.1 gme. ($1\frac{1}{4}$ grn.) of milk-sugar, and glycerin, and were given by the author in cases of sepsis in which inunctions were impracticable or were required for long periods. In acute cases two pills must be given two or three times daily during the first few days, on an empty stomach, and followed by from 100 to 200 cc. ($3\frac{1}{2}$ to 7 oz.) of boiled water or tea.

For surgical purposes the author employs a different pill, containing 0.05 gme. ($\frac{1}{4}$ grn.) of colloidal silver, 0.025 gme. ($\frac{1}{4}$ grn.) of milk-sugar, and glycerin. These pills may be inserted into open wounds in bones and

soft tissues, into fistulas, into the ear-passages in purulent discharge of the middle ear, and also into the frontal and sphenoid fossæ. The bougies or crayons are particularly intended for gynecological use; they contain 0.2 gme. (3 grn.) of colloidal silver each, and are 8 cm. (say 3 in.) long. The solutions are employed either subcutaneously or by mouth or by rectum. For the first-named purpose the author employs a 1:200 solution in all fungous and tuberculous processes wherein iodoform-glycerin injections have heretofore been made. For exhibition by mouth a solution containing 0.5 to 2 gme. (8 to 30 grn.) of colloidal silver, 50 to 200 cc. (1½ to 7 oz.) of distilled water, and 0.5 to 2 gme. of egg-albumin, is given in doses of from 1 to 4 teaspoonfuls three times daily with a glass of water or tea on an empty stomach and from fifteen to thirty minutes before meals. In over thirty cases of infectious intestinal catarrh, slow sepsis, general tuberculosis, gonorrheal rheumatism, and gonorrhea, Crédé employed the solution with good results. As an intravenous injection, the author states that a solution of 1:500-2000 might, perhaps, be of benefit in grave cases of sepsis.

To learn the effects of continued use, as much as 1 gme. (15 grn.) of colloidal silver daily was given to patients; but no by-effects and no argyrosis were observed, nor could silver be detected in the urine. F.

Eucalyptus-oil in Obstinate Headache

According to *Therap. Gaz.* (XXII, p. 237), as long ago as 1889 Lewis and de Schweinitz reported no less than eight cases of violent headache, which had resisted other forms of treatment, but which were benefited by the use of the eucalyptus-oil. In the first of these, violent occipital headache with zigzag lines and prodromal hallucinations was entirely unaffected by the administration of full doses of quinine, although there was a marked malarial history. Further than this, correction of refraction-errors did not give relief, but the exhibition of 5 minims of the eucalyptus-oil five times a day caused a complete cure. In another instance in which there was neither malarial nor rheumatic history, but a severe occipital headache of the congestive type, similar doses of eucalyptus-oil gave relief unless the headache was distinctly dyspeptic. In still another instance a patient suffering from occipital headache of the congestive type, in whose case cannabis indica and antipyrine were utterly useless, not only was relieved of the individual attacks, but was able to prevent subsequent ones by a few doses of the drug. Perhaps the most interesting case that they report is that of a

woman of 33 years, with a gouty family history, who had been for some time a great sufferer from hay-fever, and who had also suffered from violent headaches of the congestive type, the pain being of a jumping character and spreading over the head, there being associated intense injection of conjunctiva and swelling of the face. In this case, also, the ordinary headache remedies failed, but the eucalyptus-oil, given in doses of 5 minims every four hours gave great relief during the paroxysm, but was most efficient when exhibited during the prodromal period. Since then other investigators have employed the eucalyptus-oil in a considerable number of cases with advantage, and while it is not a remedy which is suited to every case, nor agreeable to take, and while in a certain proportion of cases it may disorder the stomach, it is at least to be remembered when the physician is called upon to treat obstinate forms of headache not dependent upon morbid growths. F.

Ichthyol in Pulmonary Tuberculosis

John Hey Williams (*Charlotte Med. Jour.*, XIII, p. 17) states that he has used ichthyol in several hundred cases of pulmonary tuberculosis quite largely, and secured favorable results in a large majority of cases. He has found that as the appetite and digestive powers increased, the daily average of temperature was lowered, the night-sweats were lessened, and in the majority of cases ceased entirely; degenerative changes take place in the appearance of the bacilli, with lessened number and gradual disappearance, the character of the cough is much modified, the expectoration becomes much easier, the character of the sputum changes from the tough, sticky, and tumular plunks. It becomes more fluid and more easily raised, losing its purulent character, and gradually decreasing in quantity.

It is most effective in the torpid forms, and is counterindicated and sometimes injurious where there is erethism or fever. It stimulates the appetite, favors the nutritive processes, reduces the cough, and builds up the general health, while locally it is an efficient disinfectant. With 1 or 2 gme. a day the sputa are liquefied and disinfected; drying up with larger doses. It was usually administered in pills or capsules just before meals, from 1 to 3 grn. a day, suspended for a while, or combined with from 2 to 5 grn. dermatol, if it produces diarrhea, as occasionally occurs. By means of its supposed power to constrict the capillaries in inflamed tissues the author has been induced to use it largely in all cases of a hemorrhagic nature, and has de-

rived more comfort from its use than from either ergot or gallic acid, or any of the astringents. As a local application in all tubercular ulcers nothing is its superior. It has given great benefit also in local applications in laryngeal tuberculosis, where there are deep, ragged ulcers from breaking down of tubercular deposits. In these it is applied in full strength; and as a detergent wash. It is also used in a 10- to 20-per-cent. solution as a spray. Owing to the fact that it is not miscible with any of the hydrocarbon oils, the writer has not been able to use it in deep inhalations, but is convinced that he would derive great benefit from a solution or suspension in glymol or other bland and unirritating hydrocarbon oils.

In cases of tubercular diarrhea no bad results ensued. Ichthyol has no effect upon the peristaltic movement of the bowels. It does not aggravate cases of tubercular diarrhea, and in the author's opinion has a beneficial effect, in that it acts as an antiseptic in the same way as creosote and carbolic acid. Where there was encountered a persistent case of tubercular diarrhea the ichthyol was given in rather larger doses, and associated, if necessary, with a small amount of bismuth subgallate (3, 5, 6, or 8 grn.) or with bismuth salicylate or some of the mild astringent preparations. A deodorized tincture of opium, or the crude opium itself, administered with the ichthyol, was found to answer better for controlling the tubercular diarrhea than any other remedy. F.

Thallium Acetate in Night-sweats

Combemale reports (*Gaz. hebdomadaire de Médecine et de Chirurgie*, 1898, No. 8) that he has used thallium (not thalline) acetate with good results in some thirty cases of night-sweating, tuberculous as well as non-tuberculous; in only two complete relief was not attained. The dose employed was generally 0.1 gme. ($1\frac{1}{2}$ grn.), exceptionally 0.2 gme. (3 grn.), administered in the form of pills. Often a single dose sufficed, and the remedy was never given for more than seven consecutive days. It was found, however, that if the thallium acetate had produced by the fourth day, it was useless to continue its employment.

[As the salts of thallium, especially the soluble ones, are highly poisonous, producing symptoms similar to those of intoxication by lead, mercury, and others of the heavy metals, it is imperative to exercise great care in the administration of the chemical above referred to, lest unexpected untoward effects be produced. As far as is shown by the literature at our command, a

therapeutical use of thallium has been attempted ere this but once. This was by Pozzi and Courtade (*Gaz. méd. de Paris*, 1884, No. 13), who employed the iodide of thallium, in doses of 0.01 gme. ($\frac{1}{4}$ grn.) in pills, in secondary syphilides on the vulva. —Ed.] F.

Saccharin for Nurslings

Le Bul. Méd. (No. 79, 1898) takes from *Cent. f. innere med.* No. 32 this note by Keller, that saccharin on account of its antiseptic properties is better for nurslings than sugar because it antagonizes intestinal fermentations and stomatitis from microorganisms. It in no way effects the function of the digestive apparatus, either favorably or unfavorably.

Cow's milk having less sugar than mothers' milk it is necessary to add sugar when nursing by the mother is stopped and cow's milk is substituted. Thus added sugar frequently provokes diarrhea. Saccharin avoids this and does not interfere with absorption of nitrogenous matter.

H.

Puerperal Sepsis Treated by Hydrogen Peroxide

J. N. Upshur (*Med. Reg.*, Vol. II, No. 6, 1898) believes that in these days of advanced asepsis puerperal sepsis should not ordinarily occur, except in such cases as are autogenetic—a class of cases which, although their existence is denied by competent authority, the writer is convinced are sometimes encountered.

When sepsis results from external causes, it is because the accoucheur or nurse has failed to secure surgical cleanliness. This in most instances is highly reprehensible. Elevation of temperature, not dependent upon some easily removable or transient causes, such as constipation or the first secretion of milk, but associated with scanty, offensive or absent lochia, is the invariable indication that infection has taken place, and that prompt clearing of the uterine cavity is imperative.

The writer's method of treatment in these cases is first to irrigate the interior of the uterus with a normal salt-solution, remove secundines or other retained foreign matter by means of the sharp curette, then again irrigate freely with salt-solution. After thoroughly drying with aseptic cotton or gauze, hydrogen peroxide is applied to the uterine cavity by means of a small intra-uterine syringe or an applicator upon which is wound a piece of aseptic gauze or absorbent cotton saturated with the agent. The foam should be removed and fresh applications made until the cessation of

foaming gives positive evidence that the uterine cavity has been thoroughly cleansed. This procedure should be practised daily until the temperature falls to normal and remains at that point, a result obtained, as a rule, within a week.

The advantage of hydrogen peroxide over mercuric chloride, carbolic acid, and other agents that act chemically is that it is non-corrosive and non-destructive of healthy tissue. S.

Cardiac Tonics in Epilepsy

Von Bechterew (*Neur. Cent.*, 17, 1898, No. 7) recommends in the treatment of epilepsy that in addition to the bromides some cardiac tonic be added. He uses Adonis vernalis in the following combination:

Infus. Adonis Vernalis... 30 grn. to $\frac{1}{2}$ pt
Potassii Bromidi..... 3iii

Six tablespoonfuls a day.

Such a combination he believes to be more efficacious than bromide alone. It can moreover be used for a long time. In some rare cases where Adonis is not well borne digitalis may be substituted. J.

Salophen as Aid to Sodium Salicylate in Rheumatism

La Sem. méd. (No. 46, 1898) contains a note on salophen as adjuvant to sodium salicylate, the need for which arises in the intolerance of the stomach for the latter drug when needed to be administered for a considerable time. Dr. Mosher, professor of the faculty of medicine of Griefswold, has found experimentally that salophen obviates this. He commences with large doses of the salicylate and continues for from 3 to 5 days till the good effects against the rheumatic condition begin to be felt. Then daily doses of salophen to the extent of 2 to 3 gme. (30 to 45 grn.) are given. This drug is not absorbed in the stomach. On reaching the intestine it is split up into salicylic acid and acetyl-para-midophenol and is always well borne. This is kept up as long as treatment for the condition is needed. H.

Heroin, a New Derivative of Morphine

Dresser (*Le Bul. méd.*, No. 80, Oct. 5, 1898) states that if acetyl groups are substituted for the two hydroxyl groups of morphine, heroin, a diacetic derivative of morphine, is produced. Its sedative action on the respiration is more powerful than that of morphine and codeine. A milligram of heroin nicely slows the respiratory movements of the rabbit; 10 times as much codeia is necessary to cause the same re-

sult. The fatal dose of heroin is 100 times the efficacious dose, whilst the fatal dose of codeine is only 10 times the efficacious dose, due to the convulsive action of the latter which prevents the slowed respiration from supplying sufficient oxygen. Heroin has very little convulsive action. Heroin has been efficacious against cough in the dose of 0.01 centigram, making respirations less frequent and deeper. In the guinea-pig production of CO_2 is reduced to one-fifth of former amount.

In pneumothorax (recent) pneumonia, certain affections of the heart, etc., heroin, by lessening need of air, is a conservative agent. Lessening combustion it lessens hyperthermy better than do antipyretics. H.

Combined Use of Creosote Carbonate and Ichthyol in Pulmonary Tuberculosis

The valuable results obtained separately from creosote and ichthyol in pulmonary tuberculosis led Hugo Goldmann (*Wien. klin. Wochenschr.*, XI, p. 817) to combine these remedies in the treatment of the disease. The mixture employed by him was made as follows:

Creosote Carbonate ... 15 gme. (4 dr.)
Ichthyol 15 gme. (4 fl. dr.)
Glycerin 30 gme. (6 fl. dr.)
Peppermint Water 10 gme. (2 $\frac{1}{2}$ fl. dr.)

The mixture was given to adults in doses of 20 drops, gradually increased to 30 drops, thrice daily, in wine or lemonade, after meals. Children or sensitive patients took 10 drops, increased to 20 drops, thrice daily. Under the influence of this medication more or less relief was obtained by patients in whom the pulmonary lesions had not advanced too far. The history of 4 cases is given tending to show the good effects obtained by a combination of the two remedies. F.

Serum-therapy in Pulmonary Tuberculosis

J. O. Hirschfelder, of San Francisco, reports (*Epid. Brit. Med. Jour.*, No. 1,963, p. 28) on the treatment of tuberculosis by oxytuberculin. The idea of this treatment was given him by the observation of Spencer Wells that tuberculous peritonitis is sometimes rapidly cured after an exploratory laparotomy. This effect, in Hirschfelder's opinion, is due to the oxidation of the tuberculous products by the action of the air; hence he thinks it may be inferred that tuberculin may form in animals by the antitoxin contained in the blood of animals which have received injections. The serum which contains the antitoxin is harmless for

animals and for human beings. This serum can in certain conditions bring about a lasting clinical cure of human tuberculosis. The use of this serum is justified: (1) By the action of the serum against the poisons, and, perhaps, against the bacilli, of tuberculosis; (2) by the analogy of the therapeutic process due to the serum with the defensive processes originating within the organs infected with tuberculosis; this analogy is shown (a) by the presence of antitoxin in the blood of a healthy human being; (b) by the production of the antitoxin in a human being who has been injected with the tuberculous poisons; (c) by the presence of the antitoxin in the organism of patients in whom spontaneous recovery from tuberculosis takes place. (3) The favorable action of the serum is shown clinically in the human subject: (a) By the fall of temperature; (b) by the disappearance of the bacilli; (c) by the cure of the bronchopneumonic foci. F.

An Influenza Prescription

Bacelli (*Gazzeta degli ospedali e delle clin.*, 1898, No. 43) highly recommends the following combination for influenza ushered in by severe fever and nervous disturbances:

Quin. Salicyl	0.2 (3 grn.)
Phenacetin	0.15 (2 grn.)
Camphor	0.02 (½ grn.)

The above dose to be administered up to six times in twenty-four hours. J.

Permanganate of Potassium in Lupus

Kachanovsky (*Med. Times*, July, 1898) reports his experience of the use of potassium permanganate in the treatment of lupus. The freshly prepared dehydrated dried crystals are applied to the patches in a layer from 3 to 5 inches thick. If the patches of lupus are undermined, they are first curetted away, and then the powder applied; after which a layer of medicated cotton is placed over the whole.

According to Kachanovsky's account one application of the powder is sufficient to work a cure. W.

Ethyl Bromide for Narcosis

The increasing use of ethyl bromide renders any information regarding it of particular value. Dr. Schmeden, of Oldenburg, writes us that he has employed ethyl bromide for a number of years in minor operations on the throat, nose, and ear. Children may be held by a nurse, but adults are seated on a chair provided with a headrest. The writer employs the usual chloroform-mask (Schimmelbusch), which

he covers with several layers of mull, over which is fastened a layer of parchment-paper. The entire quantity of ethyl bromide is poured into the mask at once, and the latter at once placed tightly over the nose and mouth. Half the contents of a 25-gme. bottle are sufficient for children; for adults two-thirds of the contents suffices. Fresh mull and parchment-paper are used for each narcosis, and so is a fresh bottle of the ethyl bromide. No unpleasant by-effects have ever been observed. The ethyl bromide appears to be particularly useful for employment on children. F.

Nephrolithiasis

Charles Greene Cumston (*Mass. Med. Bull.*, XX, p. 344) says that in the attempt to dissolve renal concretions by alkalines he has frequently ordered the following combination with apparently happy results:

Sodium Phosphate	45 gme. (1½ oz.)
Sodium Bicarbonate ..	45 gme. (1½ oz.)
Lithium Carbonate	10 gme. (2½ dr.)

A level dessertspoonful dissolved in a glass of water, thrice daily.

Danforth speaks most highly of the potassium citrate in the dose of 2 gme. every three or four hours, and the writer has prescribed it with good results as follows:

Potassium Citrate	1 gme. (15 grn.)
Sodium Bicarbonate ..	0.5 gme. (8 grn.)
Lithium Carbonate, Effervescent.....	0.25 gme. (4 grn.)

Four or five such powders daily in a glass of water.

When there is pyelitis the writer has given 0.5 gme. (8 grn.) doses of urotropin (formin) in water several times daily, on account of its antiseptic properties in the genito-urinary tract, or the following:

Benzoic Acid	3 gme. (45 grn.)
Sodium Salicylate	3 gme. (45 grn.)
Chloroform Water	90 gme. (3 fl. oz.)

To be taken in four doses during the day.

For severe hematuria ferripyrine has been employed in several cases with a satisfactory outcome, combined as follows:

Ferripyrine	1 gme. (15 grn.)
Comp. Tinct. Gentian.	10 gme. (2½ fl. dr.)
Syrup Orange	90 gme. (3 fl. oz.)

A dessertspoonful every two hours.

Or:

Iron Albuminate	0.25 gme. (4 grn.)
Tannic Acid	0.05 gme. (¾ grn.)
Powdered Sugar	0.5 gme. (8 grn.)

Three to four such powders daily, according to indications.

A cure at some mineral-water resort is really of some value, and at these places the advantages of producing oxidation of uric acid by baths, strict attention to diet and a well-directed exercise, tend to have an excellent action. F.

REVIEWS

King's American Dispensatory. New edition. Entirely rewritten and enlarged. By Harvey W. Felter, M.D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O., and John Uri Lloyd, Ph.M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute. Two-volume edition, royal octavo, each volume containing over 950 pp. with complete indexes. The Ohio Valley Co., Publishers, Cincinnati, O. 1898. Price, cloth, \$4.50 per volume, postpaid; sheep, \$5.00 per volume, postpaid.

This dispensatory made its first appearance in 1854 and has now gone through eighteen editions, each of which portrays the effects of our advancing knowledge in medical matters in a way that shows that the eclectics keep time with the rest of the world in nineteenth-century progress. If evidence was needed to prove with what rapid strides sectarian sentiment in medicine is giving way to the reasonable demands of science we could certainly find it in this excellent volume. From beginning to end it does not contain a single statement of principle that the most orthodox regular physician could not readily subscribe to and almost every drug mentioned within its pages can be found in the United States and National Dispensatories. As but one of its two volumes has appeared the next may contain something startling in eclectic materia medica or therapeutics. This one certainly has named but a small number of drugs that are not quite familiar to us all and nowhere does it set forth any methods of administration that are in the least novel. Our United States Pharmacopœia is approvingly quoted and commented upon in the most orthodox fashion. Indeed, there seems to be about as little difference between this dispensatory and the two above mentioned as these differ between each other. It has the advantage over the other two in that it contains information which has become known since they were published. In fact it is a fully up-to-date work, handy to handle by virtue of its not appearing in one volume and illustrated with numerous drawings of plants, crystals, etc., that are a decided improvement, adding very materially to its usefulness. Professors Felter and Lloyd should certainly be proud of their work and we would advise all of our readers who are seeking good books for their libraries by no means to overlook this one because it happens to be published principally for eclectics.

A Text-Book of Pathology. By Alfred Stengel, M.D., Instructor in Clinical Medicine in the University of Pennsylvania, etc. With 372 Illustrations. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, cloth, \$4.00 net; half morocco, \$5.00 net.

This is a well-written, practical and up-to-date text-book that is sure to prove satisfactory in its contents to students who study it and practitioners who consult it. It is divided into two parts, the first dealing with general and the second with special pathology. Under General Pathology, etiology, disorders of nutrition, disturbances of circulation, retrogressive processes, inflammation, tissue-changes, bacteria, and animal parasites, come in for careful consideration. Under Special Pathology the author treats of diseases of the blood, lymphatic tissues, circu-

latory system, respiratory system, gastro-intestinal tract, ductless glands, urinary organs, reproductive organs, bones, joints, muscles, brain, spinal cord, and peripheral nervous system. The illustrations are well drawn and materially aid in elucidating the text. In the preface the author says that except in a few instances, discussion of methods of examination has been omitted, because it seemed unwise to increase the size of the book with matter that is appropriately presented in special works on technique, and for similar reasons he decided to exclude the pathology of the skin and of the organs of special sense.

The Eye as an Aid in General Diagnosis. A Handbook for the Use of Students and General Practitioners. By E. H. Linnell, M.D. Philadelphia: The Edwards & Docker Co. Pp. 248. Price, \$2.00.

If the attention which the author has given to the eye as an aid to diagnosis is not disproportionate, and we think it is not, then the conclusion is inevitable that the value of the information which the eye is capable of furnishing to aid diagnosis is not enough appreciated by the general practitioner. In fact we are almost certain the average practitioner has not even a small fractional knowledge of the important hints this book contains to aid him in his general work. The value of the volume will be better appreciated by the oculist. If the general man gives it anything like careful attention, it will most certainly result in his referring many of his important and doubtful cases to the oculist for special examination. This tendency is in the right direction. Specialization is necessary to elicit the best in all fields. The work is not original in any important sense, being largely a compilation. It was needed, however, to fulfil the purpose for which it was written, for we know of nothing occupying the field as fully and as helpfully as this does. More than half the volume is occupied by the first part in considering the eye-symptoms of nervous and constitutional diseases. This is the most helpful part of the work to the general man. The second part, devoted to reflex neuroses, takes the safe ground in regard to attributing certain diseased manifestations to ocular insufficiencies of refraction or convergence. The extreme views of Stevens, Ranney, and others as to the power of refractive errors and heterophoria to bring on epilepsy and chorea, and like nervous disorders, are moderated by an adequate admission of well-verified cases and due caution against unqualified acceptance of the extreme position.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M.D., F.R.S., F.R.C.P., Professor of Medicine in the Johns Hopkins University and Physician in Chief to the Johns Hopkins Hospital, Baltimore. Third Edition, entirely Revised and Enlarged. New York: D. Appleton & Co.

So many and so important are the changes made in this edition of Professor Osler's Principles and Practice of Medicine that it has become practically a new work. It is unnecessary for us to say that every change was made necessary by the rapid strides that have been lately made by medical science. Professor Osler has always been known to do things thoroughly whenever he has undertaken any task. In this instance he has but followed his usual habit and as a consequence he has given us one of the very best works on practice of its size that exists in

any language. It is a work that every consultant can rely upon implicitly as giving him the last word of science up to the date shown upon its title-page. It is thoroughly practical as a guide in diagnosis, symptomatology, and treatment. The changes that have been made in this edition are thus enumerated in the preface. "The following articles have been rewritten or are new: Vaccination, Beri-Beri, The Bubonic Plague, Cerebro-spinal Fever, Pneumonia, Malta Fever, Yellow Fever, Dengue, Influenza, Leprosy, Glandular Fever, The Gonorrheal Infection, Cancer of the Stomach, The Gastric Neuroses, Enteroptosis, The Cirrhoses of the Liver, Jaundice, The Diseases of the Bile-passages, Diseases of the Pancreas, Diseases of the Thymus-gland, Diseases of the Spleen, Lymphatism, Addison's Disease, Encephalitis, Neurasthenia, Erythro-melalgia, and many shorter articles, as Hypertrophic Stenosis of the Pylorus, Ether-pneumonia, Anesthesia, Paralysis, Pneumaturia, Albumosuria, etc."

Histology: Normal and Morbid. By Edward K. Dunham, Ph.B., M.D., Professor of General Pathology, Bacteriology, and Hygiene in the University and Bellevue Hospital Medical College, New York. Illustrated with 363 Engravings. Lea Brothers & Co.: New York and Philadelphia. 1898.

This is a handy, condensed volume for students in which the author aims at making them see the normal and pathological activities of the cells as a total and in the simplest manner possible. In the larger volumes in which histology, histological physiology, and pathology are treated of apart, the standpoint taken only gives a partial view of the subject and unless great pains are taken by the teacher the true relations that obtain between normal structure, abnormal structure, and cellular activity are likely to be overlooked or forgotten. As structure and function are but two sides of a single subject a complete understanding of either can only be had by comprehending the relations of the other. The same is true as regards pathological modifications. Unless these are connected in the mind with the unmodified conditions and their functions, the facts are likely to be misinterpreted. The author has sought first to point out clearly to the reader the facts concerning normal structure and then in connection therewith to give brief accounts of the most prevalent morbid processes. The volume closes with a chapter on histological technique in which suggestions are given for the care and use of the microscope.

A Text-Book Upon the Pathogenic Bacteria.

By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Octavo volume of 500 pages, fully illustrated. Price, cloth, \$2.50 net. Second Edition, revised and enlarged. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

The vast amount of work being done in the field of bacteriology and the multitude of new discoveries being made necessitate a continuous multiplication of new books on this subject and a frequent revising of the older ones so as to keep abreast of the times. In this second edition of Dr. McFarland's work we find that much pains has been taken to see that it fully represents our present state of knowledge in pathogenic bacteriology. We are sorry to note that the author thought that it was logically necessary for him to exclude all reference to the pro-

tozoa in treating his subject. We think he has made a mistake in his great desire to appear consistent in this matter. The book, if designed to be of the greatest value possible to the general practitioner or even the student of bacteriology, should have devoted some space to the plasmodium of malaria. Although it is an animal parasite it can never be placed along with tapeworms and pediculi, because by its size and characteristics it will always necessitate the skill of an expert microscopist to find and study it. The technique used in its investigation is that of the bacteriologists, and for this reason, if no other, it should be placed with bacteria. To rule it out of works on bacteriology is to consign it to a place of its own when there is enough known about it to fill a volume, but to relegate it to neglect at present. Dr. McFarland has given us a work that does credit to him as an author, and that will prove a great benefit to students.

Lectures on Tumors. By John B. Hamilton, M.D., LL.D., Professor of Surgery, Rush Medical College and Chicago Polyclinic, etc. Third Edition. Twenty-one Illustrations. Philadelphia. P. Blakiston's Son & Co. 1898. The classification adopted by the Royal College of Physicians of London and the American Medical Association is the one followed in this book. The work is divided into: 1, Tumors composed of one of the modifications of fully developed connective tissue; 2, Papilloma and adenoma; 3, Sarcoma; 4, Carcinoma, and 5, Cysts. There are detailed descriptions of methods of preserving and hardening tissues for microscopic work. There are a number of good illustrations.

The *Boston Medical and Surgical Journal* says that on October 28, the French bark, *Duchesse Anne*, arrived at San Francisco from Hong Kong. Her captain and one of the sailors had fallen victims to bubonic plague during the voyage, and the vessel was in charge of the first officer. The vessel was ordered to Angel Island, where the crew was landed and detained. The vessel was taken to San Quentin, where she was thoroughly disinfected. Bubonic plague is always prevalent in Hong Kong at the time of year when the *Duchesse Anne* sailed—the middle of August—and this year has proved no exception. This occasion is the first for many years, however, in which it has been brought to the American coast.

Twenty-eight Doctors of Osteopathy have applied to the Nebraska Board of Medical Examiners for certificates to practice on the strength of their diplomas without examination. The Board has asked the Attorney-General to tell it what its duty in the matter is. The law declares that only certificates or diplomas from "schools of good repute" are to be accepted by the Board, and as it is not told what constitutes a school of good repute the Board thinks it its right to settle the matter for itself and against the Osteopaths. The law declares that certificates given to such candidates as thus come from schools of good repute must be recorded with the "county clerk" of the county in which they intend to practice, but there are at present said to be no county clerks in that state. The law also gives the Board of Health the right to revoke all certificates when the applicants fail to obey the law. It therefore gives the Board of Health the right to revoke any license that may be given to an osteopath by the Board of Examiners as such osteopath cannot obey the law.

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EDITOR'S NOTES

The Sanitary Club of Buffalo, through the chairman of its Topic Committee, Dr. E. Wende, has sent out a circular of enquiry to ascertain the feelings of medical men as to the desirability of establishing permanent military camps of instruction constructed on hygienic principles. It is suggested that these camps have asphalted floors and streets, water-system, sewerage, etc., and that they be maintained ready for use when desired by the general or local government. As to their desirability there can be but one opinion and that in their favor, but as to the possibility of our ever being able to educate the public to that point where there will be a willingness to bear the burthen of maintaining them, we have very grave doubts. Such a hope seems at present to be thoroughly utopian. If during the periods of martial enthusiasm the money could be secured to start them it is pretty safe to predict that in a very short time they would be so badly neglected that they would simply represent a vast sum of wasted capital. Our nation is not likely to get into enough wars to need these camps oftener on an average than once in a generation. Our volunteers would object to the loss of time and expense of going to distant camps outside their own states merely for drill. The public does not even now appreciate the necessity for sanitary drill on the part of our soldiers. It thinks that the doctors only were to blame and in no way

the patients for the terrible disease-scurge through which our army has passed. To bring about a full or fair appreciation of the true situation is a larger task than could be accomplished in half a century, if every medical man were enlisted in the enterprise. Even if the public judgment could be convinced of the usefulness of permanent military camps it would be hard work to get men to sympathize heartily and make them willing to bear the financial burthen. We hope the Sanitary Club of Buffalo will succeed in awakening some interest in the idea among the most progressive, as even this will be a step along the line toward better things. Social evolution is very slow—much slower indeed than most people imagine.

The success of the antivaccinationists of England is stirring up the hornets of the same stripe in this country into pernicious activity. The American Antivaccination Society has started out with the declared intention of getting laws passed for the abolition of vaccination in this country. The proposition is to make it a crime for any doctor to vaccinate a child or an adult. Mr. H. L. Piehn, the president, is touring the country advocating such measures and trying to persuade the ignorant that vaccination is a crime against health as well as against morals. He has the active support of antivivisectionists, Christian scientists, metaphysical healers, Thomsonians and the whole rank and file of erraticdom. It almost seems as if the fates had decreed that every tortuous-brained mortal had to have some sort of grievance against the medical fraternity. Ignorance and crankiness are twin brothers. To scotch the one is to scathe the other. If medical men could become a unit in demanding a thorough education on the part of every one who pretends to make the sick well and then leaving them free to practice in those fads that they choose to pursue, we believe extreme manifestations of imbecility like antivaccinationism and antivivisectionism would die natural deaths. The prejudice that is stirred up by opposition to the fads, as such, reacts among the ignorant to our detriment. To fight for education only and not to put down any particular types of quackery would give us a good leverage with the average American citizen and enable us to accomplish much toward his improvement. As long as he thinks we are fighting osteopathy, Christian scientists, or the like he will side with them as against us, but when we get him to appreciate the fact that we only seek to have every quack know the probable outcome of his quackery

through an education as thorough as our own then he will help us to bring about that result. The backbone of antivaccination is quackery. Quack doctors encourage it. We cannot give the masses a medical education but we ought to be able to force every irregular practitioner to take one.

What a contrast exists between Havana and Santiago. In the former disease runs riot and our best citizens who dare to venture there meet death as a reward. In the latter, by the efforts of Dr. Wood, not one case of yellow fever has appeared in many weeks. The one city fairly represents the fruit of Spanish rule and the other of American. Havana has been for generations a scourge to the whole world and particularly to our gulf states. As an international nuisance it should have been wiped out or else cleansed long ago. A nation that could maintain a nuisance of this character for so long a time deserved no pity and should have had none. The whole world should thank us for whipping Spain and driving her out of the Antilles as they will all be gainers in the affair. Even Spain herself will be benefited. The quicker we get Havana cleaned the better. Let Col. Waring's report be acted upon immediately and let the whole city be scoured and scrubbed as it never was before.

PUBLISHERS' DEPARTMENT

HAWAII AND THE PHILIPPINES

Send four cents (in stamps) for an illustrated booklet issued by the Chicago, Milwaukee & St. Paul Railway, the direct route across the American Continent to the New Trans-Pacific possessions of the United States. Full of latest reliable information and valuable for reference. Can be used as a text-book in school. Address William Kelly, Jr., G. E. P. A., 381 Broadway, New York.

FROM THE CAPITOL

Professor John Milton Bigelow, of Albany Medical College, states: "Platt's Chlorides are incomparable, reliable and effective for all purposes set forth in the prospectus of the firm."

E. H. Humphrey, M.D., writes: "I recently had a boy sick with Scarlet Fever isolated in a room, the doorway of which was constantly covered with sheets kept wet with Platt's Chlorides. Four other boys escaped infection though they remained in the same house."

IN LARYNGEAL OR WINTER COUGHS

Dr. Walter M. Fleming (*Journal of Nervous and Mental Disease*) says, that in acute attacks of laryngeal or winter cough, tickling and irritability of larynx, Antikamnia and Codeine Tablets are exceedingly trustworthy. If the irritation or spasm prevails at night the patient should take a five-grain tablet, containing $4\frac{1}{4}$ grn. Antikamnia and $1\frac{1}{4}$ grn. Sulphate Codeine, an hour before re-

tiring and repeat it hourly until the irritation is allayed. Allow the tablet to dissolve slowly in the mouth swallowing the saliva. After taking the second or third tablet the cough is usually under control, at least for that paroxysm and for the night. Should the irritation prevail in the morning or at midday, the same course of administration should be observed until subdued. In neuralgia, in short, for the multitude of nervous ailments, he doubts if there is another remedial agent so reliable, serviceable and satisfactory, and this, without establishing an exaction, requirement, or habit in the system, as morphine does.—*The New York Medical Journal*.

NEWS

On account of an epidemic of smallpox following the recent rebellion in Venezuela, the meeting of the third Pan-American Medical Congress at Caracas has been postponed from December, 1899, to December, 1900.

The American troops in the Sandwich Islands are suffering from an epidemic of typhoid fever. Camp McKinley, near Honolulu, has had to be abandoned. The soldiers, it is said, still continue to disregard all sanitary precautions.

The Tri-state Medical Society, of Alabama, Georgia, and Tennessee, at the late meeting in Birmingham, Ala., chose Chattanooga as its next place of gathering, and elected Dr. George A. Baxter, of Nashville, as president.

The employes and some members of the hospital medical staff of the Allegheny General Hospital, Pittsburg, are up in arms because the Board of Directors is in favor of appointing a woman as superintendent. They want a man appointed in place of John Deens, who has resigned.

The Pittsburg, Pa., Bureau of Health is said to be contemplating the establishment of a vaccine-virus plant for the purpose of producing and supplying physicians with that commodity. Most of the doctors for 100 miles around Pittsburg seem to depend for their supply upon the Bureau, which at present sells over \$100 worth per month.

Dr. Simon Polk, a physician of St. Louis, is defendant in a suit for \$10,000 damages brought by Miss Winnie Winhurse, of St. Louis. For the last ten years she was under Dr. Polk's treatment for an affection which destroyed the use of her limbs. She alleges that Dr. Polk wrote an article for a morning paper describing her case and referring to it as remarkable, and subjecting her, she claims, to embarrassment and ridicule.

Captain C. L. McCawley, quartermaster of the battalion of marines that captured Guantanamo, says that not one of the 800 men in the command died of disease, though long in a "fever-hole," and only 2 per cent. were unfit for duty when they reached home. He says: "The excellent health of the battalion while in Cuba was due to the fact that distilled water only was used for drinking and cooking. There were other elements, however, chief of which was the excellent sanitary arrangements of the camp, the use by officers and men of light woolen underwear, and the absence of fruit from the vicinity of our camp."

The *New York Medical Journal* says: "A joint committee on vivisection representing the vari-

ous scientific societies of the city of Washington is alive to the danger that in December, when the American Humane Society is to hold a meeting in that city, the antivivisection bill now pending in the Senate of the United States may be called up and passed. Abundant testimony has been laid before our readers to justify them in using all their personal influence with congressmen to defeat this tyrannical bill—indeed, to make it incumbent on them to do so—and we again urge them to spare no effort in that direction."

An interesting suit, in view of prevailing yellow fever, was filed October 4 by the French Navigation Company, which owns the steamship *Britannia*. The *Britannia* arrived several days ago at the mouth of the Mississippi River with 408 Italian immigrants. Believing that the landing of these strangers in New Orleans might provide fresh material for the fever, and thus seriously endanger public health, the Board of Health issued an order holding the ship at the mouth of the river. The company sued for relief, saying the ship had a clean bill of health, and that the Board of Health was acting by virtue of a state law that is unconstitutional, in view of the fact that Congress alone has the right to regulate foreign commerce. Damages were asked of the officers of the Board of Health.

The Sixth International Otological Congress will be held in London, on August 8, 9, 10, 11, and 12, 1899. President:—Dr. Urban Pritchard, Professor of Otology at King's College, London. The meetings will, by permission, be held at the examination-hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment. The subject chosen for special discussion is "Indications for Opening the Mastoid in Chronic Suppurative Otitis Media." A large and influential British Organization Committee has been formed, the treasurer being Mr. A. E. Cumberbatch, 80 Portland Place, London, W., and the Hon. Sec., Mr. Cresswell Baber, 46 Brunswick Square, Brighton. The International Otological Congress, which assembles every four years, met last in Florence, where a very successful gathering was held under the presidency of Professor Grazi.

A correspondent of the *London Lancet* reports that in January, 1897, the Imperial Academy of Sciences of Vienna sent out a commission to investigate the epidemic of plague in Bombay. The members of the commission were Dr. Müller, a physician; Dr. Albrecht, an anatomist; Dr. Ghon, a bacteriologist, and Dr. Poeh, physician's assistant, who also has charge of the photographic department of the hospital. After a stay of three months they returned to Vienna and established a plague laboratory of their own in Professor Weichselbaum's pathological and anatomical institute in the General Hospital. Here they made pathological investigations of specimens which they had brought with them, obtained from fifty-two post-mortem examinations, observing the morphology and biology of the plague bacillus and making experiments on animals with a view to ascertaining the nature of its pathogenic action and the possibility of immunization. On October 15 a man named Barisch, who looked after the animals, suddenly fell ill with high fever and cough without expectoration. Dr. Stejskal, the assistant physician, diagnosed pneumonia. Dr. Ghon expressed his suspicion of plague, and the case was isolated in Dr. Nothnagel's clinic, where Dr. Müller and Dr. Nothnagel discountenanced the diagnosis of plague as there was no enlargement of the spleen.

On October 17 the patient's sputum contained blood, the microscope showed polymorphous bacilli, and a guinea-pig was inoculated with the sputum. On October 18 the guinea-pig was killed, its glands were found to be enlarged, and the microscope showed plague bacilli. In the afternoon Barisch, whose symptoms included high fever and copious expectoration containing blood, became collapsed and died. A guinea-pig inoculated with blood from his heart died in two hours. Sputum collected on October 17 gave plague bacilli on cultivation, as also did the glands of the guinea-pig. No post-mortem examination of Barisch was made on account of the risk of an extension of the disease, but the body was buried after Dr. Müller and two nurses had wrapped it in sheets impregnated with corrosive sublimate; they also cleansed the ward. On October 20 Nurse Pecha, having fallen ill with fever, cough, and expectoration containing blood, was transferred to the Infectious Hospital under the care of Dr. Müller and the second nurse named Hochegger. Nurse Pecha's sputum contained bacilli. Dr. Müller began to feel ill. On October 21 he suffered from fever accompanied by expectoration, and he found plague bacilli in his own sputum and also in Nurse Pecha's, whose temperature rose to 41° C. (105.8° F.). Dr. Poeh undertook the treatment of the patients, and was treated prophylactically with Paltauf's serum, but Dr. Müller refused the serum treatment. On October 22 Dr. Müller showed typical pneumonia and he died on October 23. As in Barisch's case no post-mortem examination was made. Nurse Pecha was suffering from continuous high fever. On October 24 Dr. Marmorek arrived from Paris with a supply of Dr. Roux's serum, injections of which were given to Nurse Pecha and prophylactically to Dr. Poeh and two nurses. On October 25 Nurse Pecha's condition showed little change, if any, but on October 26 she was described as moribund. As soon as the first case of plague was clearly recognized the Plague Commission permanently closed Professor Weichselbaum's Institute. All the animals used for experiments were killed, and the drains of the Institute were disinfected; Dr. Nothnagel's clinic was cleared and disinfected and the medical men and nurses belonging to it were isolated; the public were refused access to the General Hospital, all the medical men and the nursing staff were kept indoors, and some supposed febrile cases were transferred from the Institute and Professor Nothnagel's clinic to the Infectious Hospital. Barisch's wife and brother were also admitted to the Infectious Hospital and received prophylactic treatment. No one has been attacked with plague since Dr. Müller fell ill, and all the persons in isolation have remained free from it up to October 26, the symptoms which were regarded as doubtful being only those of sore throat. On October 26 Nurse Pecha's was the only case officially notified as plague in Vienna, though the symptoms of a companion nurse are gravely suspicious. She and those who had been in communication with her and all the suspected cases are completely isolated in the Infectious Hospital. Barisch probably received the infection by way of his respiratory organs while feeding the inoculated guinea-pigs; Dr. Müller and Nurse Pecha were obviously infected by inhaling the germs coughed up by Barisch. In all three cases the symptoms were exclusively pulmonary; glandular enlargements, which point to infection conveyed through the skin, did not occur. Infection never takes place by way of the alimentary canal.

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EDITORIAL

SPECIALISM IN MEDICAL SCHOOLS

IT is comparatively a few years since it was possible at any of the largest universities of the United States to obtain a medical degree in eighteen months of study, and we well remember how in the University of Michigan three years were required to make an apothecary, two years for the manufacture of a doctor. Then came the three years' medical courses, soon followed by the prolongation of the period of required study to four years. The advance in medical education has been, of course, very great, but it seems to us in certain particulars not to be well-directed, and as very little has been said on the matters of which we are thinking it is not out of place to call attention to them.

Specialism in medicine has its advantages and also its disadvantages. In most of the cases which come under his care the specialist is more accurate and more successful in his treatment than are the few remaining old-fashioned family physicians. Sometimes, however, a specialist fails through narrowness, and the frequency of these failures is in direct proportion to the earliness at which special direction has been given to the studies of the would-be specialist. The man who commences special uterine studies during his student life usually in his after-years sees nothing in the female sex but a uterus with the shadow of

a woman, impalpable and intangible, surrounding it.

Almost every specialist has ambition to be a teacher, and can very well claim that his knowledge of his special subject is greater than that of his more widely educated colleagues. The pressure therefore upon the medical schools by those who are candidates for special professorships is very great and grows year by year, until the day seems approaching when even in our medical colleges there will be no one fit to teach a wide general outline of practical surgery and practical medicine, but the teaching force will be an aggregation of specialists, each one believing that the eye, the heart, the uterus, or some other organ, is the only portion of the human system which is worthy the attention of a rational being. Each specialist vies with his colleagues in the depth and minuteness of his teaching, and in the conversion of the examination-room into a torture-chamber for the unfortunate candidate. After the candidate has passed these examinations, has been taught, examined, and certified to by a world-famous specialist, he thinks himself fit to practice the special branch of medicine; so that whereas formerly he would refer an eye to an oculist, now he ruins it perchance by attempting to do that which can only be properly done by one who has devoted many years to the subject; or worse, kills a patient by a destructive laparotomy.

The object of medical education should be to give a broad foundation upon which

the candidate in subsequent years can build a superstructure in accordance with his own desires, circumstances, and necessities. To change the metaphor, the course in practical medicine and practical surgery should be a bird's-eye view—an outline chart, a charcoal sketch—in which the details are to be filled in after the candidate has received his degree of Doctor of Medicine. Such education is all that can possibly be done in four years. If the course of study extended over five years the fifth year might be given to special studies taught by specialists.

As it is, medical education seems to us, in the United States, to be undergoing deterioration rather than improvement. A medical student is, after all, only human; in most of our medical colleges he is nearly worked to death; the attempt is everywhere made to cram at least as much study in the four years as the European student acquires in five years. It has been one curious but significant experience, which we think must be shared by other professors in large medical colleges, that precisely as a new specialist has been injected into a medical faculty, and a study of a new specialty enforced, the average grade of the class in some general study lowers. It is impossible that it should be otherwise; you cannot add water to a cup which is already overflowing without displacing fluid.

Again, to change the metaphor, you cannot make a tree grow in a certain direction when it has only a certain amount of food that it can use up, without dwarfing it in some other direction. We sometimes dream that modern medical education, instead of being a rounded development, is in danger of becoming a series of warts, excrescences, bumps, etc., according as there happens to be in the immediate vicinity of the medical institution a specialist who is famous in this or that line of medi-

cine. Five years' medical course will assuredly come some time in America, but until it does come it would be far better if the teaching ambition of medical specialists found its fruition only in post-graduate schools.

THE CARE OF PUBLIC HEALTH

THE National Quarantine Convention that met last month in Memphis adopted by an overwhelming majority the following resolutions:

Resolved, That there be established a National Bureau of Public Health in the Department of the Treasury of the United States; that the administration of all the public-health functions now exercised by authority of the United States be placed in charge of this bureau; that the sanitary authorities and commercial interests of the several States of the Union be brought into immediate relations with the bureau and be given a due share in the power and responsibilities of the control board, through the agency of an advisory council, consisting of one member from each State, to be appointed by the authorities of the several States.

It will be seen by our readers that this is in every essential an endorsement of the "Spooner bill," which was presented to the Senate of the Fifty-fifth Congress by Senator Spooner, of Wisconsin, and to the House by the Hon. Theobald Otjen, of the same State. The bill probably would have come up for consideration last spring but for the war with Spain. Now, by the able efforts of its friends, it has received this endorsement, and is, as a consequence, likely to meet with unusually favorable consideration at the hands of Congressmen. The "Caffrey bill," which is also at present pending before Congress and which is a rival of the "Spooner bill," would seem to have most of its vitality taken from it by the weakness it showed and the few friends it could command at the Memphis meeting. Those who favor the "Caffrey bill" wish to increase the quarantine powers of the Ma-

rine-Hospital service during epidemics. They deem it unnecessary and unadvisable to introduce any new bureau to do what can as well be done by an already organized body. They bring the charge that the "Spooner bill" is cumbersome and defective, that it would enable the President of the United States to appoint his family physicians to the head of the epidemic service whether competent or not, allow those having the greatest political pull to triumph over better men, and that as local Boards of Health are depended upon for information to act upon it would be subject to the same fatal defect as present systems, in that no reliance could be placed on negative reports when it is to the interest of a region to hide the truth. Those favoring the "Spooner bill" claim that the "Caffrey bill" is wholly inappropriate for a free country like ours and more suited to the empire of the Tzar or that of the Sultan. They likewise point out the fact that it only deals with quarantine and has nothing to do with the far more important subject of sanitation. As no great objection could be raised to the absorbing of the Marine-Hospital Service by a National Bureau of Health it becomes evident that the "Spooner bill," if adopted, will enable us to utilize all its advantages.

It is evident that both factions are but fighting for mere expedients. Any extension that might be made to the Marine-Hospital Service and any establishment like the proposed Bureau of Health can only be mere makeshifts for the time being, that will leave us farther from the logical and consistent goal of right. The one grand test of the greatest public good and the bestowal of equal and exact justice to every class of citizens in the nation demands something more than either. Whether or not the people will be sufficiently instructed in what is really best for them within the present generation is very problematic. There is really no interest in the nation so

important as is that of health. The quicker the people are educated to the point that they can see this the better it will be for them. Health is something that every living thing is or should be interested in. On it hang happiness, peace, comfort, and enjoyment of every kind. Take it away and the nation itself will soon perish.

What argument can be advanced for the existence of any national department that cannot be duplicated in behalf of a Department of Health? There actually does exist a department now that is rapidly evolving toward a Department of Health by force of circumstances. As it at present stands, it is an anomaly among the rest. In it we continue to perpetuate an inconsistency as great as we did when our Declaration of Independence declared that all men are born free and equal while at the same time we legalized slavery. It is generally supposed to be unconstitutional for us to have a law that favors any one class of the community. To show that a proposed legislative act is one of class legislation is usually enough to kill it.

If the production of a Department of Agriculture were not class legislation it would be difficult to find anything that could be properly characterized as such. It is unreasonable and inconsistent for our government to have any department to represent any one class in the community. Cabinet officers should only stand for some great public interest. The Secretary of State, Secretary of the Treasury, Secretary of War, Secretary of the Navy, Secretary of the Interior, Postmaster-General, and Attorney-General each represents in his department the interests of the whole nation and not of a single part thereof. When we turn our attention to the Secretary of Agriculture we find the whole principle of representative government subverted and the interests of a single class of the community considered. He in no sense repre-

sents the interests of the whole nation. If his department had not been established when the farmer dominated politics more than he now does we never should have been confronted with so illogical a situation. Why not have a Department of Carpentry as well as of Agriculture? Why not have one of Mining? What reason can be given against a Department of Cobbling that will not tell with equal force against one of Agriculture? What reason can be given in favor of a Department of Agriculture that will not apply with equal force to a Department of Railroading?

It is quite likely that the reason unconsciously formulated in the minds of Congressmen against a Department of Health is that they think the doctors want a Department of Medicine. Nothing could be farther from the truth. We have no more right to a department for doctors than have the farmers to a Department of Agriculture.

What we want is a department to look after the interests of the whole community just as the army does when it meets and vanquishes the nation's foes. Indeed, the function of a Secretary of Health would be very much the same as that of the Secretary of War, only the foes that would have to be vanquished would be far more numerous, far more treacherous, far more dangerous, and far more deadly.

The Department of Agriculture is daily by its acts confessing that it is an anomaly. Its Bureau of Animal Industry is a Bureau of Health. The work done in all its laboratories is the work of bureaus of health. Every new duty it assumes brings it nearer and nearer to a Department of Health. When it undertakes to investigate adulterations, that is the work of a Department of Health. When it studies serum-therapy, that too belongs to a Department of Health. Standing as a Department of Agriculture, it is restricted and unable to

do such work fully and properly. Always comes the fiat to the investigator "thus far shalt thou go and no farther." How can animal diseases be studied properly and completely but in conjunction with human diseases? How can even plant-diseases be studied wholly apart from human diseases? Are not the water from the farm and the milk and meat from the farm the most common sources of contagion among human beings? How then can Agriculture in any of its aspects be studied scientifically but as a branch of the higher problem of Health?

The Department of Agriculture should be a Bureau of Agriculture under a Department of Health. Indeed, it must either stop growing or it is bound, sooner or later, to convert itself into a Department of Health. To-day we are trying with all our might to make the lesser embrace the growing greater. To maintain this state of affairs we propose to burthen the Treasury Department with a Bureau of Health. We have already given it a Marine-Hospital Service to care for. What earthly connection any person can see with the treasury and quarantine regulations is hard to tell. Why we should seek not only to perpetuate but actually to increase the absurd association is a mystery. To push forward this move is to damage future progress and to increase taxation to an enormous extent without resulting in adequate gain. Properly to convert the Department of Agriculture into a Department of Health and correspondingly to augment its functions would be to bring about the highest possible desirable results at the least possible cost to the community. Give us instead of the present Department of Agriculture a department capable of studying problems of physiology and pathology in plants, animals, and men, and then we shall have all the farm needs of governmental care combined with that which the whole nation needs in the same direction.

AMONG THE EDITORS

SUCCESS

Success in medicine is so intangible that it is hard to find out whether stuff or polish has the most to do with attaining it. Men of very different stamps are failures, men coined by widely diverse mints are successful. Probably the most vital quality is executive ability. It is better, at least for the doctor, to see through the patient than to diagnose his disease.

Financial success may sometimes be got by the application of one great principle in a lump to all mankind, as in the case of the philosopher some time ago mentioned in these pages who said: "It dond metter so much, mein friend, vat you gif, so much as who gifs it."

This same sage from Germany has firmly grasped one other great principle in medicine on which, apparently, he has finally founded his fortune. He gives his patient a positive assurance of cure and at the same time makes them feel better by giving them a laxative.

It is worth more than a passing thought that a suggestion and a cathartic suffice in most cases. Many a school of medicine has been built on a more slender support than this. It would probably be well if the profession more firmly grasped the idea that most diseases are caused by either obstruction or infection, and that many infections may be overcome by relieving obstructions. Nine-tenths of the quack systems of cure, which have anything back of them beyond hypnotism and strong personal influence, rely on that fact. A mechanical block in the way of food as it goes through the alimentary tract, the blood as it goes through the vessels, the bile from the gall-bladder, the urine from the kidneys, the sweat through the skin, blockings of the Eustachian canal, the lachrymal duct, the Fallopian tube, the lymph-channels, so countless are the diseases caused by all these blocks that if the orificialist only extended his operations to a half-dozen more orifices, and were enabled by a celestial burst of vision to pick out the right one to operate on in

any given case, the harm he does might be limited to his dirty instruments and the too great exuberance of his dilution.—*Cleveland Journal of Medicine.*

THE PROBE

This diabolical instrument has, we hope, about done its worst, and we venture the assertion that the probe has been the means of killing or infecting more wounded individuals than it ever aided in saving. But few surgeons, outside of a well-appointed hospital, in *emergency-work* ever get and keep their instruments, hands, and field of work even approximating sterility, and of all wounds the penetrating ones with small cavity of entrance are the easiest to infect and the most difficult to disinfect. The difficulty and danger lies in insufficient drainage, locked and barred toxins that cannot easily find their way out. What is the use of the probe in bullet-wounds? To find the ball? or to see how far it has penetrated? What is the advantage of finding the ball? An incision should be made to take it out; then why not make an incision to find it, if one insists on doing something. It is much safer, and the eye (no matter how penetrating) will carry no pathogenic micro-organisms, and the wound of incision will afford ample and free drainage to anything the penetrating body may have carried in with it and render easy the application of antiseptics, if needed. If the patient's condition warrants, it is frequently the best surgery to simply render the external opening aseptic, put on a sterile dressing, and let the patient alone; the ball will become encysted, and if it does not lie against a nerve-trunk it will do no harm. This does not refer to visceral wounds always, for here experience and surgical acumen are very valuable and will point to what is best to be done. It is better surgery to enlarge the wound of entrance here if necessary than to use a probe. The Roentgen rays would be very valuable to locate the offending body, but would not show the damage it had done. Here, again, the eye can be relied upon if sufficient care is taken.

The probe is an instrument second only to the missile in its capabilities for harm,

and should be in these enlightened days thoroughly sterilized and so carefully put away that it cannot be found again.—*Georgia Jour. of Med. and Surg.*

MARRIAGE OF THE UNFIT

In the London *Lancet* of September 10 Dr. Harry Campbell publishes an article on "The Marriage of the Unfit" that is as radical in its views, if not in its actual proposals, as any that have appeared upon this general subject. He would prohibit or discourage marriage by, not only those who have suffered or are suffering from insanity, epilepsy, tuberculosis, heart-disease, etc., but also by all who have or have had rheumatic fever, strangulated hernia, ovarian cyst, congenital defects of hearing, or any one of the chronic or acute functional nervous disorders; in fact, he would prohibit marriage altogether to that large class who are included under the general head of neurotics.

While he does not propose legislation to this effect, he holds that, as physicians, we should use all our influence to prevent marriage by those suffering from the above-named disorders and do our utmost to create such a higher ethical standard upon physiologic questions of this kind as would secure that such a self-denying ordinance could be possible on the part of the public that is specially concerned. He goes even further in his enthusiasm for the welfare of the race; while, from a sociologic point of view, he condemns polygamy; as a biologist, he regrets its discontinuance in civilized communities, and wishes that it could be utilized for multiplication of the progeny of our athletes and intellectual giants.

The State can reasonably interfere in prohibiting the marriage of the insane, and also—perhaps, with less prospect of success—that of the tuberculous and epileptics. As regards the other disorders mentioned by Dr. Campbell, it is hardly likely that even medical advice will be often asked, much less accepted. When we take account of all the vicissitudes of nervous and mental development and the absolute lack of any positive normal standards, any wholesale discouragement or even disparagement of

the marriage of neurotics—including under this head all those who have suffered from functional disorders—might in certain points of view seem actually perilous to the welfare of the race. The existence of a functional nervous disorder may be only an incident of a higher evolution, not by any means an indication of deterioration demanding the extinction of the family of the possessor.—*Jour. of Amer. Med. Assoc.*

BAD ROADS

The enormous bad-road tax is to-day the biggest factor in the industrial depression from which our people are suffering. It is as real a tax as any man ever paid. It is the largest tax we pay. It is a tax on our horses, a tax on our vehicles, a tax on our time, on our labor, on our business, a tax on our intelligence, a tax on our women and children, a tax on everybody, a tax on the living and on the dead; and yet what makes it all the worse, it is a tax which in all its blighting effect has not one redeeming feature. It oppresses everybody, and the farmer more than anybody else; it retards all business, and agriculture more than any other, but it does not benefit one single living person.

The doctor who has had to drag through miles of mud nearly hub-deep, when he was urgently needed by a very sick patient, needs no other argument to convince him of the importance of good roads, but if all would drop a word now and then among that class who do the voting and the tax-paying they would be planting the seed of education, which would ere long bring about a great reform in this direction.—*North Carolina Med. Jour.*

MEDICAL NOMENCLATURE

Much as one might desire it otherwise, disease is not an entity. Popular and clinical designations as well, indulge in its personification, but such designations are quite uniformly without significant definition, or at best only symptomatically descriptive. Often, too, the symptom selected may be of least importance. The classification of fevers is somewhat illustrative of these general statements.

Malarial, while indicating the source of

the disturbance as having been malaria, yet means nothing. For malaria translated is only bad air without specifying the variety. Of this generically, our crowded populations have a superabundance, while but few have the fever which would be supposed to result therefrom, and they from sparsely settled communities rather. Intermittent and remittent are no better than continued; but the intelligent laity, while accepting the former draw the line at the latter, and accuse its medical users of an attempt at evasive concealment, invariably asking: "What kind of continued fever?"

Typhoid is as plain as can be. Everybody knows what that is, but the doctor. To him often it is, indeed, *like smoke, cloudy*. Yet many a patient has endured its traditional three weeks, and even its added relapse of as many more, whose intellect has not been once obscured.

Rheumatism, a lively relic of the old humoral pathology, is readily recognized by its victims and his neighbors, all of whom are satisfied with its identity, and the former certainly dissatisfied with its presence. Yet what information even the least is conveyed by its title?

Sooner or later a revision of nomenclature must be had. Of necessity it must be uniform or practically so, in order to an intelligent classification, essential to an intelligent discussion, and the development of rational treatment. There is no apparent reason why this should not be done periodically at definite intervals, as is the case with our Pharmacopœia. So far as practicable, it should have an etiological rather than a symptomatic basis.—*Southern California Pract.*

GOING BACKWARD

The English Government has taken a long stride backward in abandoning compulsory vaccination. According to the law recently passed no parent can be convicted for refusing to vaccinate a child, provided he can satisfy the court that he has a "conscientious disbelief" in vaccination. No parent can be proceeded against twice in respect to the same child. It is said by the friends of the new law that through it they will be able to reach careless parents who

have no conscientious scruples against vaccination, but already parents are coming forward with the necessary "scruples" who had, previously to the passage of the new law, allowed their children to be vaccinated. That such legislation as this is possible in a country which has but recently had in several sections, notably Gloucester, epidemics in which the unvaccinated suffered severely, is almost past belief.

Such legislation as this would be ridiculous were it not awful because of the harvest of suffering and death which it is sure to bring.

In and of itself such legislation is bad enough, but the harm which may come from such a precedent is well-nigh incalculable.

If it comes to pass that "conscientious belief" be considered by all lawmakers as better evidence than well-established facts, it would be hard to prophesy as to the results.

A parent may have a "conscientious disbelief" in the contagiousness of diphtheria, and thereupon refuse to obey the law enforcing isolation in such cases; or, having a "conscientious disbelief" in the efficiency of medical treatment he might choose to treat his diphtheria-infected child as do the faith-curists.

Is society to be at the mercy of such parents? Shall a "conscientious disbelief" in capital punishment on the part of a father prevent the execution of his son who, according to law, has been proven guilty of cold-blooded murder?

If a competent jury declares a man to be a homicidal maniac and, therefore, dangerous to the community, shall a "conscientious disbelief" in this verdict on the part of the man's parents rob the community wherein the maniac resides from the protection which they can secure only through the enforced confinement of said maniac?

All sane persons would, of course, answer each of the three foregoing questions with a very emphatic *no*. And yet there is no more reason why the public should be protected from the murderer or the maniac than there is that it should be protected from smallpox.—*Fort Wayne Med. Jour.-Mag.*

CURRENT TOPICS

WHAT ARE ERNST'S KERATIN GRANULES?

Ernst for some time has been describing a type of granules found in the compact skin when treated by Gram's method of staining. He believed them of primary importance in the development of the cells in this region. Kromayer (*Centralbl. f. allg. Path.*, IX, p. 439, 1898) seeks to show that their functional importance is nil and that they are artefacts. He investigated normal skin, condylomata, and epithelioma of the lip. He shows by an ingenious method that the granules are precipitated by means of the alcohol in the specimen. J.

THE ART OF TEACHING AND THE TEST BY EXAMINATION

Dr. Michael Foster, in his address at the opening of the medical school of Mason's College, Birmingham, England, said in part (*Lancet*, October, 8, 1898):

The art of teaching in the true sense of the word is not the art of pouring into empty vessels; it is the art of awakening latent powers, the art of nursing that feeble infant the desire to know, until, growing strong in limb, it is able to walk alone and go on its own way. The only teacher who can truly teach is one who is himself bent on going forward, to whom each bit of new knowledge which comes before him is not something to be stuck in its proper place in the catalogue of things known, but a stepping-stone from which to make a new stride. The tests, trials, examinations—call them what you will—by which the progress of the student is measured should be directed to appraising his intellectual growth, not his accumulated knowledge; to determining how far he has got on the road, not the amount of luggage he has gathered on the way. This cannot be achieved solely by means of one or two written questions and answers, even with the aid of a string of manipulative puzzles, often called a practical examination. By hypothesis we are striving to lighten the burdens of the medical student; we are desiring to find out the minimum of knowledge of any one science, say physics, possessing which he may be permitted to pass on to the study of the other sciences, based on that. I am arguing that it will be enough if we can be assured that he has learned to think in physics, that he has grasped the methods of physical inquiry to such an extent that when in some other science—in pathology, for instance—a problem is treated by physi-

cal methods he can comprehend the treatment. No stranger, even though he had the skill of an angel, could gain that assurance by merely shooting questions at the student in one or two formal occasions. One person is only in a position to form a judgment on the matter, the teacher who has really taught the student, who has brought him on his way, not by formal lectures only, useful as these are in their proper place, but by frequent intercourse in the laboratory, watching him at his repeated exercises, sounding again and again by quiet talks the stream of his thoughts. He alone is in a position to say that which we are supposing is all that need be said—that such and such a one understands what he has been taught and may now safely pass on to the other studies. If it be feared that such a judgment is a responsibility too great to be laid on the shoulders of one person, seeing how personal predilections or other motives might come in to warp it (though in a well-ordered mind and a well-ordered university, loyalty to the science on the one hand and to the university on the other, ought to be a safeguard strong enough to render to such a fear of little moment), let his results be checked by some one else and the student's fitness be declared by the mouth of two witnesses of his work. But it is only by taking the teacher into full confidence and making large use of him that we can hope so to adjust the increasing demands of the sciences auxiliary to medicine to the fixed and stationary capacities and opportunities of the student as to train up men in such a way that their purely scientific studies shall be wholly a help to, and not all a drag upon, their strictly professional learning. R.

Hygiene

A. B. Dondor (*Pa. Med. Jour.*, July, 1898) observes that sand-filtration, before the water is received into the reservoirs for general distribution, is the most effective and the cheapest process of purification of water-supply. In cities water-mains should run in continued circuits and not be allowed to come to a dead end, whereby a closed basin is formed, into which are gradually built up masses of filth, to be retailed through the hydrants of the consumers in surrounding houses. In private houses the spigots should be opened and left so for a few minutes, so that the water in the service-pipes may run off, thus avoiding impurities that may have accumulated. In every city a system of flushing from the fire-plugs at fixed and frequent intervals should be established, by which every householder

would be relieved of a vast amount of filth in the use of water.

Ice should not be taken from places where pollution may have accumulated. Concerning garbage, every city should have a system of house-to-house collection with an incineration-plant. Every city should have an inspector of food-products.

G.

SUBNORMAL TEMPERATURE

Le Roy J. Brooks (*Med. Rec.*, p. 690, Nov. 12, 1898) concludes:

1. Subnormal temperature is a frequent prodrome of disease, and an important indication for abortive treatment.

2. Subnormal temperature is not so uncommon as we are led to suppose by writers.

3. A continued subnormal temperature (whether cause or effect) is disastrous, and especially to the nerve-centers.

4. The subnormal temperature in diseases usually characterized by elevated temperature is a very grave symptom.

5. The causes producing a subnormal temperature can probably be covered by two pathological conditions: (a) a primary disease or injury to nerve-centers; (b) an autotoxemia.

R.

ANTI-CONCEPTION METHODS AND THEIR VALUE

According to F. Hinz (*Frauenarzt*, 1898, Vol. XIII, No. 8), most of the so-called anti-conception methods are nothing but modified ways of onanism and are in large measure responsible for the nervous exhaustion of many men and women. A means of prevention which disturbs to the slightest extent the normal physiological processes is, according to him, the "Schlauchspritze." This consists of two small elastic balls which are described more fully in the original. He claims their efficacy as a preventive of conception and also a prophylactic for venereal diseases.

VIBRATORY MASSAGE OF THE EYE

Dr. Berne (*Rev. de Thérap. méd.-chirurg.*, No. 18, Sept. 15, 1898, p. 643) condenses Dr. Micklakoff's method as given in *Vestrick d'ophthalmologie*, f. 1 et 2, 1898. Sneguireff has employed it in many cases using Edison's pen which is furnished with an ivory ball instead of a pen whose vibrations may go as high as 2000 per minute.

The patient seated half-reclining, receives the light touch of the vibrating ivory ball upon the tissues of the eye without pressure being exercised. Massage of the conjunctiva is made parallel to the free border of the lids going from outer to inner angle,

that of the cornea is made circularly and eccentrically directly on the cornea, that of the sclerotic radially. The eye is first washed then cocaineized. Tolerance is established so that the cocaine may finally be omitted. Treatment 1 to 10 minutes.

The author has massaged 20 patients affected with different ocular diseases, chronic blepharitis, glaucoma, cataract, etc. Scleritis has given best results, cure in five treatments. Rebellious follicular conjunctivitis even was cured in twelve treatments. In sixteen cases of glaucoma, interocular pressure was reduced. Synechiæ have been broken up in iritis.

H.

GLUTOID CAPSULES

According to F. Haussmann (*Pharm. Centralhalle*, No. 36, 1898) gelatine capsules hardened by means of formalin have the property of passing through the stomach without being affected. He therefore finds them of service in:

(1.) Diagnosis of pancreatic disturbances, thus capsules filled with iodoform passing the stomach when acted upon by the pancreas develop iodine, which is found in the saliva in from 6-8 hours after the taking of the capsule. A marked retardation of the appearance of iodine in the saliva is a symptom of disturbance in the function of the pancreas.

(2.) Therapeutic uses. (a) When a drug is acted upon by the stomach which destroys its efficacy (pancreas-preparations), or when a substance should work only in the intestines (calomel, itrol, chloroform, quinine-salts).

(b) As a means of protection to the stomach (menthol, copaiva, santal, creosote, guaiacol, salicylic acid, etc.).

J.

THE MODERN CYSTOSCOPE

According to B. O. Coates (*Med. Times*, November, 1898), one should be able to learn from the modern cystoscope:

1. The condition of the vesical mucous membrane; the source and frequently the cause of hematuria.

2. The condition of the ureteral lips, and whether urine is being conveyed from both kidneys to the bladder or not. If not, we may learn which of the two is the secreting kidney, and observe the character of the jets of urine propelled from the ureteral cones, whether it be clear, murky or bloody.

3. To collect the urine from each kidney separately for further examination.

4. To satisfy ourselves as to an existing constriction or obstruction of the ureter, which would aid in guiding us as to what course we should pursue.

G.

SELECTED PAPER

THE MALARIA PROBLEM IN THE LIGHT OF EPIDEMIOLOGY¹

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In what form does the plasmodium of malaria exist outside the human body, and in what way is the infection communicated to man? Is it present as a soil-protozoon in malarious localities, or is it a parasite of some species of suctorial insects or of some vegetable organism peculiar to malarious districts? and by what agency or vehicle, and through what port, does it effect its entrance into the economy? This, to my mind, is the malaria problem, on the solution of which depend our hopes of effectually combating this most destructive of tropical diseases.

The search for the plasmodium outside man has hitherto proved fruitless. We do not know where to look for it, whether in the soil, or in the water, or in the air, or in some animal or vegetable organism. Even if we had it under the microscope, we should not be able to identify it, for we do not know in what form it may be present in the surroundings of man. We have hitherto been groping blindly after it, now in this direction, now in that, without any clue to guide us in our search.

A vague idea associating insects with malaria may be traced in the works of the great Roman writers, Varro, Vitruvius, and Columella (a century before to a century after our era). Our own Sydenham remarked, "that if swarms of insects, especially house-flies, were abundant in summer, the succeeding autumn was unhealthy."² It was left to our president, Dr. Manson, tentatively to advance the hypothesis that the plasmodium is a normal parasite of the mosquito or of some other suctorial insect, "passing from mosquito to larva, and from larva to mosquito in never-ending series." The pools in which the malaria-infected insects die, become contaminated, and the parasite may be swallowed in water by man. The mosquito-haunted pools dry up; the dried sediment containing plasmodia is blown about by winds and currents of air, and may thus be inhaled by man. Besides, "many mosquitoes die without getting to water; all male mosquitoes die without seeking water. The bodies of such mosquitoes fall in time on the soil and decompose. The parasites they contained pass into the resting-stage, and in

this form they may be carried into the air by currents, or be blown about as dust, or be shaken out by man when he disturbs the soil. In this way, too, the plasmodium may find a route to man. In this way, too, we may explain the occurrence of those cases of malaria which apparently, though not really, are unconnected with swamp or stagnant water."³ According to this view, man is an occasional host of the plasmodium, and it is removed from the circulation of this host by the mosquito, within which it develops. The human infection, however, is only an episode, so to speak, in the life-history of the parasite. Its main cycle is completed in its insect host. Ross' researches further point to the conclusion that each form of parasite has its own appropriate species of mosquito in which alone it can develop. A dapple-winged insect he believes to be the host of the crescent-forming parasite; a barred-backed one, that of the tertian parasite.

This hypothesis is clearly a good working one; for it is one which can be verified by actual observation and experiment. It gives us a clue to follow, namely, the fate of the parasite in the mosquito fed on malarial blood; and the researches of Ross, to which we have referred, justify the hope that in following this clue we shall be brought sensibly nearer to the solution of the problem as I have stated it.

This hypothesis has given birth to others. Bignami suggests that the malaria germ, present in malarious localities as a soil-parasite, is inoculated into man by the mosquito and allied species of insects which deposit their ova in water or in humid places.⁴ Koch, who fully recognizes the weight of the evidence implicating the mosquito in the malarial process, and mentions the interesting fact that in a small island on the German East-African Coast, where there are no mosquitoes, there is also no malaria, believes that man is infected by inoculation. As the Texas fever in cattle is transferred from one herd to another solely by the agency of the tick, so, he supposes, is malaria propagated. The mosquito, he says, "receives the parasites, transmits them to its eggs and the young larvæ, and only the next generation is able again to infect with malaria parasites."

We have thus three mosquito theories which are at present engaging attention, each giving rise to researches that cannot fail to advance our knowledge of the subject. It is not my design to discuss the comparative merits of these hypotheses. My

¹ Read before the British Medical Association, July 27 1898.

² Sydenham's Works, *Syd. Soc. Translation*, Vol. I. p. 271.

³ Manson, Goulstonian Lectures, *Brit. Med. Jour.*, London, March 21, 1896.

⁴ *Ann. di med. nav.*, Rome, Feb., 1897, in a notice of article, entitled "A proposito delle ipotesi recentemente emesse dal Manson," in *Policlin.*, Luglio 1896.

own attitude towards them is one of hopeful expectation. We may be quite sure that if one or other has in it a basis of truth, it will have to undergo important modifications in directions perhaps little anticipated, as research proceeds. I do not appear, therefore, as an *advocatus diaboli* to find fault. My object rather is to inquire how far the mosquito hypothesis in any of its forms, or in some possible modification, can be made to harmonize with certain well-established epidemiological facts, which will find their explanation when the true solution of the problem has been attained.

The facts to which I shall briefly refer are the following:—(1) Epidemics of malaria resulting from soil-disturbance; (2) the invasion of countries and districts previously free from the infection; (3) the extinction of malaria in countries where it formerly prevailed; (4) slow-spreading epidemics of malaria, in which, as the disease advances, it dies out in the region just visited; (5) local epidemics caused by the formation of artificial marshy foci; (6) ship-malaria; (7) the prevalence of malaria in northern latitudes at the season of the year when the temperature is under the freezing-point, and when insect-life is in abeyance.

1. No fact in the history of malaria is better established than the frequent appearance of epidemics in connection with soil-disturbance.⁶ These may occur—(a) In distinctly malarious countries in which the disease is endemic; (b) in regions where malaria had been previously little known; and (c) in localities where it had for generations been practically extinct.

The instances of a marked increase in the prevalence and intensity of fever following disturbances of the soil in malarious regions, such as Panama and other parts of Central America, Brazil, and Mauritius, will readily occur to the minds of all familiar with the subject. They could well enough be accounted for by assuming either that the mosquito-bred parasites present in the soil in a resting form have been "shaken out,"

⁶ This proposition has lately been contested by Surgeon-Major Moore (*Indian Med. Rec.*, Dec., 1897), who has had the courtesy to forward me his paper. I quote his conclusions *verbatim*, without attempting to answer them—a task that would require too much space:

"It appears, then, that there are three distinct categories in which all the cases where soil-disturbance has been accused of causing malarial fever may be placed—(1) where the disturbance of the soil has interfered with the subsoil drainage, and caused a marsh or an allied condition; (2) where outbreaks of fever have been coincident with works executed in the soil, but not due to the simple disturbance of the soil; (3) where malarial fever has been caused by a specific poison released and brought to evidence by the breaking up of the soil.

"Of the cases that fall within the first category there are plenty, but, as I have shown, it is a misnomer to speak of them as caused by soil-disturbance. Of the second class there are also plenty: they belong to the type of the gentleman previously mentioned, who contracted the fever by digging in his garden. These cases are valueless. That malarial fever is caused in the manner specified in the third category there is no sufficient evidence to show."

as Manson puts it, and inhaled in the air, or swallowed in water; or, on Bignami's theory that a soil-parasite, set free by upturning the earth, has furnished an unusually large supply of virus to the inoculating insects to work with; but how are they to be explained on Koch's hypothesis?

No less numerous are the instances of very severe malarial outbreaks following soil-disturbance, in regions where malaria had not been previously much in evidence. I shall quote a case in point, which I recently met with in Mackay's work on Formosa. "I spent," he says, "weeks with the savages in the mountains near Mount Silvia, and found them generally healthy. Pepo-hoan farmers moved into the neighborhood, and began to build huts, and to cultivate the land. Within one week the entire settlement was prostrated with fever in its most intense form, and the sufferings of the poor savages were sad to see." A well-known instance of the same kind is that recorded by Wenzel, of the severe epidemic that broke out during the construction of the harbor in the Bay of Jade on the North Sea. I mention it because there comes out in connection with it, as in many other epidemics of the same kind, a point which cannot at present be readily explained on Manson's hypothesis. It is this: "There is not only a corresponding increase in the average severity of the form of sickness as the summer advances, but also a preponderance of the shorter rhythms, and an approximation to the continued type; while with decreasing intensity in the colder months there is a corresponding lengthening of the rhythm to tertian and quartan." Upon the assumption that the infection is caused by the setting free of long-imprisoned insect-bred germs from the soil, it is difficult to explain why the parasites of the short-rhythm fevers should monopolize the hot season, and those of the tertian and quartan the cold season respectively. They are "shaken out" of the soil, hypothetically, at the same time, yet the different parasites do not give rise to fever as they are brought to the surface, but each type appears in its regular season, just as in endemic and epidemic fever not arising from soil-disturbances.

Still more interesting, perhaps, are those outbreaks which have been observed to follow disturbance of the soil in connection with the making of railways, the digging of canals, the laying of gas-pipes, and so forth, in regions in which malaria has been as good as extinct for many generations. Trousseau mentions several recurring outbreaks of this kind in Paris during this century. "Even here in Paris," he says, "where intermittent fevers are of such rare occur-

rence that we hardly know them, they have shown themselves on similar occasions (that is, on the upturning of the soil). In 1811, during the digging of the Saint Martin Canal, a veritable epidemic of intermittent fever prevailed in the districts of the Temple, the Villette, and Pantin. In 1840, there was a similar outbreak when the fortifications which now surround the capital were being raised. The diggings of later years required in opening up the town by new streets and boulevards, the construction of sewers and underground passages for gas-pipes, have caused numerous paludal affections; and more than one physician has been surprised by meeting with cases of pernicious fever which he was little accustomed to encounter in his practice."⁸

In the same way, ague was observed to increase to a marked extent in London, and hypertrophy of the spleen to become common in children, at the time when the Metropolitan Railway was being constructed.⁷ In this kind of outbreak, too, just as in the others, all the types—quotidian, tertian, quartan—are represented; and the various grades—mild, severe, and pernicious—make their appearance, and follow their usual seasonal evolution. These soil-epidemics are difficult to explain on any theory—perhaps not more so on the hypotheses we are considering than on any other. I am not prepared to say that the mosquito or gnat-bred plasmodium may not preserve its vitality for many generations embedded in the soil. Of course it has still to be proved that the plasmodium assumes a resting form. It is singular, however, to find all the forms indiscriminately "shaken out" of the soil develop one after the other in their ordinary seasonal sequence.

2. There are a few instances on record of the sudden appearance of malaria in countries where the disease was previously unknown. It will be enough to mention the disastrous outbreak in Mauritius in 1866-68, and in the island of Réunion, one hundred miles to the southwest of Mauritius, in 1869.

In Mauritius the infection spread slowly, *de proche en proche*, from one point to another, taking three years to complete the circuit of the island, thirty-seven miles long by thirty-five broad. In Réunion, on the other hand, it appeared at a remote and isolated point, having no communication with Mauritius, and spread with great rapidity, surmounting mountain chains nine thousand feet high, advancing against winds, and invading the whole littoral, whatsoever

was the nature of the soil. I have been informed that a malaria-nursing mosquito was for the first time introduced into Mauritius in or about the year 1866. If this were satisfactorily established, it would afford very strong evidence indeed in favor of the mosquito theory. Some difficulties, perhaps not insurmountable ones, would, however, still remain. In Mauritius in 1866, and in Réunion in 1869, all the types and forms of fever appeared simultaneously. If the observations already alluded to, which indicate that each parasitic form requires a special host, are to be accepted, then not one but several plasmodium-nursing mosquitoes must have been introduced at the same time into Mauritius, and later again into Réunion, a rather unlikely coincidence. Upon Koch's theory, if it really assumes that any mosquito may serve as a host for the parasite, I see no reason why malaria should not have been introduced into Mauritius at any time since its first colonization, for crowds of malarious patients were continually being introduced from Madagascar and elsewhere from the earliest period of its occupation. I shall just add, that I have never seen or read of an epidemic of malaria in which all the types have not been present—a fact which, to my mind, supports Laveran's view of the unity of the parasite.

The island of Rodriguez, lying three hundred miles to the east of Mauritius, remains to the present day, free from malaria. It would be interesting to know if any species of mosquito met with in the malarious districts of Mauritius and Réunion are absent from Rodriguez.

The instances of the sudden appearance of malaria in an isolated region in which it is not endemic, as a part of a general outbreak, are somewhat more numerous than these just referred to. They evidently present, in a somewhat different form, the same problem that meets us in Mauritius and Réunion.

Let me mention one instance in point, taking the well-known Professor Bergman of Upsala as my guide. Malarial fever is not endemic on the east coast of Sweden, at any point north of Angerman River, in latitude 63°. In the spring of 1846, malarial fever became epidemic at the endemic foci of the disease on the east coast, not, however, in the district of Nyköping, an intense endemic center, and quite close to the localities suffering from the epidemic. It also prevailed on the shores of the Mälär Lake, and at some points on the Venar Lake. But the remarkable fact to which I wish to direct attention is its appearance, also in the spring of 1846, in Lulea—a marshy district at the head of the Gulf of

⁸ Trousseau, "Lectures on Clin. Med.," *New Syd. Soc. Translation*, Vol. V.

⁷ *Med Times and Gaz.*, London, February 29, 1856.

Bothnia, close on the 66th parallel. We can hardly suppose that a plasmodium-nursing gnat or mosquito had been introduced in the spring of that year into a place bordering on the Arctic Circle, for the temperature at that season, in that region, is much below the freezing-point and incompatible with the existence of the developed insect. It is remarkable, too, that it should have appeared there coincidently with its outbreak in the south, while the intermediate coastline, and even noted malarious localities in the immediate neighborhood of the epidemic centers, were spared. I do not know what type or types were met with in this remote, isolated region; but it is evident that if all the types were represented, as was the case elsewhere during this outbreak, the difficulty would be materially increased.

The difficulty as to its appearance in spring may possibly be removed by considerations which will be noticed as we proceed.

3. The decline or complete extinction of malaria in countries where it formerly prevailed is an epidemiological fact of great importance in its bearing on this and kindred theories of the infection.

Malaria is now practically extinct in many parts of England and Scotland, where it prevailed in the last century, and even in the early years of this century, and its disappearance has evidently followed on the drainage and cultivation of the soil. Has the drainage of marshy land led to the disappearance of some species of gnat or other suctorial insect from these localities? There are still, fortunately for science, some malarious districts in England, and it would be of extreme interest to ascertain whether any species of gnat are present in these which are absent from non-malarious localities. Surely our entomologists should be able to answer this question. It is said that there are nine species of gnat in Great Britain. Are any of these peculiar to malarious districts? If so, it would be desirable to repeat Ross' experiments, by feeding them with malarial blood, and observing if any pigmented bodies, such as he describes, are developed in them.

4. There are several instances on record of malarial fever spreading slowly over regions previously healthy, and disappearing in the districts recently invaded as it steadily advances onwards in a given direction. These may be called marching epidemics. They are like the onward march of an army, which, as it pushes forwards, leaves the country previously occupied free from its presence. The disease in these cases does not last longer than two or three years in one locality.

Such was the nature of the epidemic that

spread over a great part of New England in the end of the sixties and in the seventies. The fever was not restricted to marshy localities, for high lands, free from pools and standing water, were attacked apparently as often and as severely as humid and marshy places. All the fever-types were represented, and the worst congestive forms were prevalent during the height of the epidemic. Here, there could be no question of water-supply or of soil-disturbance. Perhaps, if we knew more of the habits of the insects supposed to breed or inoculate the parasite, this kind of outbreak, at present so mysterious, might find an explanation.

5. We have also examples of quite local and temporary outbreaks, clearly dependent on the establishment of marshy foci in some locality where malaria is little in evidence or altogether absent. Malarial fever broke out in Bound Brook, in New Jersey, in 1881, from the temporary formation of an artificial marsh of sixty or seventy acres. The inhabitants, numbering from a thousand to thirteen hundred, who had previously been quite free from fever, were *all*, without exception, attacked with intermittent and remittent fevers and neuralgias. When the obstruction which caused the marsh was removed, and the land converted into meadow, the fever immediately disappeared.

Belonging to the same category are house-epidemics. An instance of this kind is recorded by Friedel and quoted by Parkes⁸ as occurring in the Marine Hospital at Swinemunde near Stettin. A large day-ward for convalescents was evidently malarious, for after a patient had occupied it for several days he was sure to be seized with tertian fever of a severe kind. In no other ward did this occur. On examination, a large rain-reservoir filled with rotten leaves was found to have overflowed and to have formed a marsh, 4 to 6 square ft., close to the doors and windows of the room, which, on account of the hot weather, were kept open at night.

If the plasmodium is a normal parasite of insects which live in marshy localities, the creation of a marsh may be supposed to lead to the immigration into such locality of an insect previously absent from it. Up to a certain point, therefore, these local epidemics are explicable on this hypothesis; but the sudden appearance of one or more plasmodium-nursing insects in localities from which they were previously absent, and the rapid infection of an entire community, present difficulties not to be ignored.

I have no satisfactory explanation to offer of house-epidemics, such as that related.

⁸ Parkes, Edmund, "Manual of Pract. Hygiene," 7th edition, p. 19.

On Bignami's inoculation theory, it would be difficult to account for the infection being restricted to a single room, for, however limited may be the range of these creatures, they would not likely have failed to effect an entrance into the other wards.

6. Ship-malaria. Malarial fever, or at least a fever presenting all the clinical features of that disease, has been observed to break out on board ship, on the ocean, in circumstances which absolutely preclude the possibility of the infection having been contracted on shore. Assuming that these fevers are really caused by the hematizoon of malaria, they appear to me to be absolutely irreconcilable with Bignami's inoculation theory, for gnats and mosquitoes are not met with at sea. It may be held that a mosquito-bred plasmodium was present in the ballast or cargo, and in some of the instances the possibility of this must be admitted. A case in which the fever seems to have been caused in this way is related by Simon. In March, 1887, while the French ship of war *La Vipère* was stationed in the Bay of Halong, six out of a complement of seventy-seven men were seized with malarial fever. None of them had been on land for a long time; the bay was not marshy, and the temperature at the time ranged from 12° to 15° C. Simon concludes from this that the infection was not contracted on land, but developed on board. In the lowest hold there was a quantity of slimy sand which had been taken in as ballast, and which, being near the engine, was kept at a high temperature. This hold had been occupied as a sleeping-berth by the six malaria-stricken patients. Simon was of opinion that the germ of malaria was in this sand and had become diffused in the air of the hold. The disease ceased as soon as the hold was cleaned out and disinfected.⁹ But how are we to explain the cases in which the infection was apparently caused by the air of a moldy store-room, as in Holden's well-known case,¹⁰ or those in which it has developed during a voyage from a non-malarious country, from the planking of a vessel having become wet during stormy weather, which prevented ventilation. Perhaps it would be wiser to wait until the malarial character of house and ship outbreaks has been demonstrated by microscopical examination of the blood before speculating.

The season of maximum malaria prevalence in temperate climates is not summer and autumn, but spring, when the temperature in northern latitudes is under freezing-point.

The disease often develops in a severe

epidemic form in very cold weather. Frank tells us that he witnessed intermittent fever to reign in Vilna in the month of February, when the thermometer marked 130 below the zero of Fahrenheit. Walther says that in Kieff and the eastern governments of Russia, epidemics of malarial fever show themselves when the whole country is under a firm covering of ice, and in these circumstances attain a higher intensity than in the hot summer-time.¹¹ These facts have been rather ignored in speculations about malaria, yet they must fit in with any true theory of the disease.

It is generally held that the absence of malaria from high latitudes and altitudes is owing to their low temperature. Hirsch fixes the summer isotherm of 590 or 600 F. as the limit of malaria in Europe, and concludes that regions in which the mean temperature of the warmest months is under 590 F., are exempt from fever, as this summer-autumn temperature is necessary for the evolution of the infection.¹² He does not, however, explain in what way the temperature of summer and winter can affect the evolution of a disease which in these latitudes is not a summer and autumn one, but essentially a spring disease. If we examine the accompanying diagram, it will be seen that in Sweden the fewest cases of malaria occur in July and August, which are the hottest months, and the next fewest in December and January, which are the coldest months. In Leipzig, malaria is essentially vernal. Here there is no autumn rise. In Dittmarschen, in Holstein, where the country is marshy and where malaria is intense, we have two marked outbursts, one in spring, the other in autumn, the maximum prevalence falling on autumn.

The question whether the spring and autumn fevers, in countries such as Sweden and Holstein, are caused by the same parasites, cannot be looked upon as definitely settled. Mannaberg, however, says that he has never met with crescents in Vienna, where the disease is mainly vernal, but where a very distinct autumn outburst, somewhat more marked than in Sweden, is also observed. This points to the conclusion that the spring and autumn fevers alike belong to the simple or large parasite forms—not to the malignant or small parasite crescent-forming varieties. There is no reason, then, for supposing that there may not be some genetic relation between the autumn and spring broods of fevers. What is that relation?

If the summer and autumn temperature

⁹ *Rev. d'Hyg.*, Paris, 1888, tome X, p. 078; condensed from Scheube, "Krank. der Warmen Länder."

¹⁰ *Am. Jour. Med. Sci.*, Phila., Jan., 1866.

¹¹ Walth-r, *Med. Ztg. Russland*, St. Petersburg, 1867, S. 99, quoted by Hirsch.

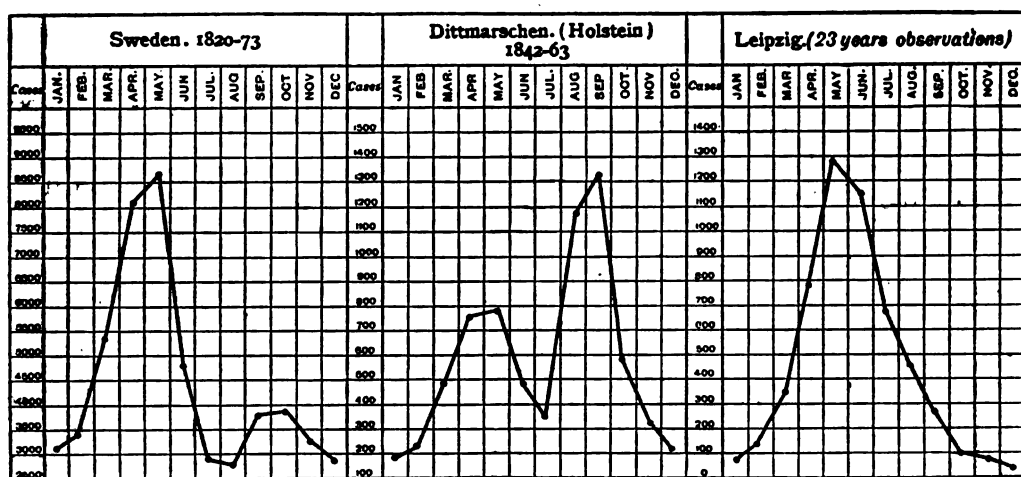
¹² Hirsch, "Geographical and Hist. Path.," Vol. I, p. 252. *New Syd. Soc. Translation.*

be really the factor which determines the latitudinal limit of malaria, then we are forced to the conclusion that the germ grown—whether in soil or in mosquito—in summer and autumn must give rise to the crop of fevers appearing in the succeeding spring. If the spring infection is not caused by an autumn-grown germ, then, I maintain, the temperature of summer and autumn has nothing to do with the limits of malaria, or with the presence or absence of malaria in these countries. The appearance of malarial fever so early as February in northern latitudes is clearly irreconcilable with the view that the infection is inoculated in spring by gnats or mosquitoes, for I presume that these insects are absent at that season from these ice-bound regions. Nor can we suppose that any plasmodia are bred at that season. Assuming, then, that the spring crop of fevers in these latitudes is

germ produced in summer and autumn has to undergo some development outside man, in the soil or in some other animal, before it becomes infectious to man; and that it is only in spring, after it has undergone the necessary changes outside man, that it effects an entrance into the human body and gives rise to fever. Whichsoever of these two views may ultimately prove correct, I have no doubt that the spring fevers are the brood of summer and autumn germs.

Looking now at the whole question as it presents itself to my mind, in the light of Ross' observations, and the analogy of parasitism, I shall state my views in a few sentences.

The malaria parasite is not dependent on man for its existence. It meets him, to his sorrow, in regions previously uninhabited. This fact in its history is adequately accounted for, on the supposition that the plas-



the harvest, so to speak, of seed grown in the soil, in the mosquito or some other insect, during the preceding summer and autumn, how are we to account for them breaking out in spring? Two explanations suggest themselves—(a) We may suppose that the spring febricants contract the infection through the air, by food or water, or by inoculation during the summer and autumn, and that it remains latent in the system during the winter, to break out in the spring. The germ may in this case be supposed to be introduced into the body in a stage of development at which it cannot produce fever, that it has to undergo development or metamorphosis in the spleen, the medulla of the bones, or other internal organs, for a time corresponding with the period of latency. The infection contracted during the early part of summer would manifest itself as a febrile disease in February, that contracted in autumn later. (b) We may, on the other hand, suppose that the

modium lives and multiplies in the soil of malarious localities, and finds its way into the system in water or air, or, as Bignami suggests, by inoculation, the virus being conveyed from the soil in which it is present by the agency of mosquitoes or other insects. But on this theory, which implies that man is merely an accidental host of the plasmodium, it is difficult to explain how a soil-parasite should adapt itself so perfectly to life in man, should develop and multiply in the system, and become latent there until conditions favor its renewed activity. This perfect adaptation to its human host is not what one would expect in a parasite whose normal life-cycle is in the soil. The forms of the parasite which come into existence after the blood is removed from the body, and which seem to have to do with the extra-corporeal life of the plasmodium, have no meaning on this hypothesis.

The theory that the parasite is removed from man by the mosquito, in which it un-

dergoes development, and in the second generation is able again to infect man by inoculation, affords no explanation of how it exists and maintains itself where man is absent, how disturbance of the soil gives rise to epidemics, or why the disease is absent from countries where mosquitoes abound.

We have no difficulty in accounting for the presence of malaria in uninhabited regions, on Manson's hypothesis, that the plasmodium is a normal parasite of the mosquito. This mosquito-bred plasmodium is hypothetically there to infect him as soon as he intrudes into a malarious region. But this theory is not without its difficulties. If we assume that any mosquito or gnat is capable of serving as a host of the parasite, then the introduction of a single malarious patient into a healthy country would give rise to an epidemic of fever, which is not the case. If each form of parasite has its own appropriate host, as Ross on grounds of experiment affirms, this difficulty is got over, for unless the suitable mosquito is at hand, the presence of a malarious patient will not suffice to start an outbreak. But a difficulty of the kind we have mentioned in connection with the soil-hypothesis meets us; for if the parasite completes its life-history in the mosquito alone, and can maintain itself in this insect without requiring the aid or intervention of man or of any other animal, how are we to account for its perfect adaptation to life in its human host, or for the fact that in him it runs a different cycle from what it does in the mosquito; in other words, that its cycle in that insect is apparently complementary to that which it runs in man? Man is clearly not an alternative host of the parasite, in the sense that it can run in him the same cycle as it does in the mosquito, and can thus take the place, so to speak, of the mosquito in relation to the parasite. From the glimpses we get of it in the mosquito's stomach, after it has been removed from man (assuming always, as is highly probable, that the growing pigmented bodies described by Ross are malaria plasmodia), we feel assured that the life-cycle of the parasite in its insect host is altogether different from that in man. Man is the alternative host, only in the sense that the parasite runs one part of its cycle in him, the other and complementary part in the mosquito. Why, again, we may ask, should the plasmodium gratuitously attack man, if its existence is assured by the mosquito alone, and why should provision be made for its removal from the blood of man if this removal is not necessary for its propagation? May we not rather conclude that man and the mosquito

are both necessary for its propagation, its cycle being from man to mosquito and from mosquito to man in never-failing series? And this is what appears to be the case in respect to the closely allied proteosoma of the sparrow. It runs a double cycle—from sparrow to mosquito and from mosquito to sparrow. There is no evidence that it can complete its life-history in the mosquito alone. Are we not therefore justified on the ground of analogy, in assuming that the malaria parasite also requires two hosts for its continued existence?

But if we assume that man alone serves as the host in which the first part of its cycle can be run, the presence of the parasite in malarious countries before the advent of man is inexplicable. As the proteosoma can run the first part of its course in the crow and lark, as well as in the sparrow, may we not suspect that man is not the sole alternative host of the parasite *vis-a-vis* to the mosquito, but that other animals present in malarious countries may, in the absence of man, and even when he is present, serve as the host of the parasite, in which it runs the first part of its life-cycle, and from which it is removed by the agency of the mosquito, in order to complete its cycle in that insect. It may be quite true that any mosquito cannot serve as a nurse for every form of the parasite, but the fact that the tertian parasite, as we know it in Europe, exists in India, where it is propagated by a barred-backed mosquito which does not exist in Northern Europe, points to the conclusion that not only may some of the lower animals fulfil the rôle of man, but other species of insect may take the place of the dapple-winged and barred-backed mosquitoes as hosts of the parasites.

I do not think of the disease in regions uninhabited by man as passing from mosquito to larva and from larva to mosquito in never-failing series, but as passing from the mosquito directly by inoculation, or indirectly through soil, water, or air, to some animal in which the parasite runs a cycle analogous to that observed in man, and from these, again, to the mosquito or other insect feeding on the blood of these malarious animals, and so on in never-failing series.

It may be urged against this view that it is contrary to the results of inoculation-experiments, and unsupported by observations of the occurrence of malarial fever in the lower animals. Too much importance is not to be attached to the negative results which have followed the injection of malarial blood into the lower animals, as a proof that the parasite cannot develop in them. It does not follow that animals are immune to

the infection because it cannot be communicated to them by inoculation with human blood. Besides, it is quite possible that the alternative host has not yet been found and experimented upon. It is not even certain that the disease in the lower animal, which hypothetically serves as the host of the parasite, is a febrile one. Malaria is not necessarily febrile in man. Apyrexial forms are known.

There is evidence of a kind not to be ignored, that some of the lower animals do suffer from febrile forms of malaria, in all respects similar to, and probably identical with, the human disease. Parke, in his work entitled "Personal Experiences of Equatorial Africa," assures us that the donkeys belonging to the expedition suffered from intermittent fever. Their hair stood on end, their ears dropped, and, as he says, "they looked miserable all over." Their temperature was high, in one case it reached 106° F. in the rectum. The fits were brought on, too, in the same way as those in man. Swimming across a stream always brought on an attack in them, "just as it did in the case of their Christian and pagan fellow travelers." Lawes, in New Guinea, observed dogs to have shivering fits, followed by a hot stage. These fits lasted for a few hours and returned at regular intervals. Macculloch, long ago, recorded similar observations of malarial fever occurring in dogs in Britain, and many authors assert that they have witnessed tertian fever in horses, cows, swine, and other animals. In none of these cases, of course, has the blood been examined for the malaria parasite; but these facts nevertheless render it by no means improbable that more than one species of the lower animals suffer from human malaria. We shall thus have to look for some animal present in malarious regions that normally performs the rôle in which man participates when he appears on the scene, and for other insects that can take the place of the dapple-winged and barred-backed mosquitoes.

Should this view, that the malaria parasite runs a double cycle, and that other animals may take the place of man as its host, prove correct, as I think it will, some of the difficulties which at present surround the etiology and epidemiology of malaria would be lessened or disappear.

Postscriptum.—The day after this paper was read, Dr. Manson communicated to the British Medical Association some important observations of Surgeon-Major Ross, on the development of the proteosoma of the sparrow in the mosquito, which appear to prove that this parasite runs a part of its cycle in the sparrow, the other, or complementary

part, in the mosquito. This supports the view that malaria runs only a part of its cycle in the mosquito, and that it must find an alternative host in some other animal in malarious regions from which man is absent. This should encourage observers in malarious countries to seek for the host in which the parasite normally runs, what we may call, the first part of its cycle. The diffusion of malaria will probably be found to depend largely on the presence of this alternative host.—*Edinburgh Medical Journal.*

Operation for Deficient Urethra in Males

B. Robinson (*Memph. Med. Month.*, Vol. XVIII, No. 9, p. 390) offers the following operation for the foregoing condition: Place a catheter of proper size to fill the urethra, in the gutter, if it exist, on the under surface of the penis. Make an incision in the skin parallel to the catheter on each side. This raised flap should be wide enough to be stitched around the catheter without tension. Next dissect the flap, which will enclose the catheter to make the new urethra. The outer flap should be widely dissected by undermining the skin so that it can be brought to the middle line and sewed over the catheter with the internal flap. The two flaps are stitched together over the catheter with the same silkworm-gut suture. The catheter should be placed in the glans by a deep incision on its under side, and the flap stitched around it without tension, as it is at this point that strangulation is liable to occur. Having formed the whole new urethra, from the glans penis back to where it is intact, it is best to tie the catheter in a bow so that it may not slip out, leaving it in for about two weeks. All this time the urine should be conducted out of another catheter, placed in the bladder which passes out just behind the newly formed urethra. At the end of two weeks the catheter in the newly formed urethra may be passed into the bladder, and the deficient point closed between the new and old urethra by a couple of sutures of silkworm-gut. The rubber catheter should at this time be fixed into the bladder by passing a ligature of silkworm-gut through it and the glans penis and loosely tying it. The bladder should be irrigated daily, so as to keep both catheter and bladder free of obstruction from mucus and lime salts. In a month's time the catheter may be withdrawn. Should one or more small holes make their appearance in the newly formed urethra, these can be repaired by refreshing and by a couple of silkworm-gut sutures.

ADDRESS

THE CHEMICAL RELATIONS OF REMEDIES IN SCIENTIFIC THERAPEUTICS*

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The blood is a nutrient fluid tissue, rich in corpuscular elements. The health of the tissues depends upon the health of the blood. In the act of nutrition the cells of each organ select their appropriate pabulum. The cells are the essential and active components of any organ or tissue. In health and disease alike it is the influence of the blood upon the cells that we must study. We witness perverted cell-action as the result of disease. The normal composition of the blood is maintained by the steadily renewed supplies of aliment.

As the constituents of normal blood influence the cells according to the type of health, as in disease the activity of the cells is so modified that their functions are very imperfectly performed, so when in disease remedies are given it is still upon the cells that their action is exerted. Thus as regards their mode of production, a close analogy exists between the nutrition of health, the disturbances of disease, and the action of remedies.

As food is obtained from the animal and vegetable kingdoms and includes certain necessary mineral constituents so our remedies are taken from the vegetable and mineral worlds together with some from the animal kingdom, which, however, until recent years were comparatively few in number. Within a few years past a variety of preparations have been more or less extensively and successfully employed. It is of these and the principles of their employment that I would say a few words to-day, believing that the subject of tissue-therapy and serum-therapy is often misunderstood and misrepresented.

It was undoubtedly a great advance in scientific medicine when the chemists began to isolate the active principles of vegetable drugs. The possession of alkaloids, glucosides, etc., enables us to administer drugs with a precision and efficiency which were formerly impossible. A second and, I am disposed to believe, a greater, advance has begun in the introduction of animal tissues, extracts, serums and antitoxins into medicine. These methods are yet in their infancy; we are not sure concerning every

step in our progress; they are, no doubt, subject in many directions to revision, but they are based upon the experimental work of modern science and may be modified according to future experience. When we examine this class of remedies we find that they may be divided into three groups, viz., extracts of glandular and other organs, serums, and antitoxins. The serums, again, are taken from animals naturally immune to certain diseases and from those who have been rendered artificially immune. Correspondingly, as regards their application, extracts are used in the diseases of nutrition and the serum and antitoxins in those due to infection.

The doctrine of internal secretion, announced by Brown-Séquard, has been prolific of practical benefit; it has been shown experimentally and clinically that the ductless glands perform a very important office in the economy. They elaborate from and return to the blood a material which is necessary to the maintenance of health. Other glands which possess ducts for the discharge of their secretions, have been shown, nevertheless, to produce also an internal secretion. In the latter class are the testicles and pancreas. The testicles were the first organs to be utilized in the treatment of disease. When we consider the highly vitalized and specialized character of their secretion we need not be surprised that its loss or suppression should be attended with depression of the physical and mental force. Brown-Séquard, therefore, conceived the idea that orchitic extract might be of service in arresting failing nutrition of old age. You are all familiar with the incredulity with which this proposition was received. Some who tested the new remedy, however, supported the claims which had been made on its behalf and believed themselves warranted in extending its application. It has been used with advantage in a number of organic diseases of the nervous system, as locomotor ataxia, chorea, and different forms of paralysis. In cardiac debility it has also been of service.

The most brilliant victory was next won by a ductless gland in the treatment of myxedema. The value of thyroid extract in that previously intractable disease has been so conspicuous that negative criticism has been forestalled. Under the influence of thyroid therapy the skin softens, the mucoid infiltration lessens or disappears, perspiration returns, the mind clears, the strength increases, the temperature rises, and the features lose their deformity. Thyroid extract has likewise been of value in relieving cretinism. It has been applied to the management of certain other diseases ac-

*Address of the Chairman of the Section on Materia Medica, Pharmacy, and Therapeutics, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo.

accompanied by depressed nutrition, but although it has accomplished good in some cases it has not been so remarkably successful as in myxedema. It was hoped that we might find in the thyroid gland an efficacious remedy for exophthalmic goiter, but our expectations in that direction have not been realized. The reports have been scarcely favorable to its use in that disease.

The thymus-gland has been employed likewise in various disorders of the blood and nervous system, but we are unable to report any decided success from its use. Addison's disease stands in much the same relation to lesions of the suprarenal capsules that myxedema does to incapacity of the thyroid gland. An extract prepared from the glands has been tentatively used in this disease. Experience is not as yet, perhaps, sufficiently extensive to justify the expression of any categorical opinion. In a number of instances it has been of undoubted efficacy. In some it has increased the strength and relieved the nervous manifestations without exerting any influence upon the pigmentation. In others, it has caused a decrease in the coloration as well as improvement in the subjective symptoms. The truth probably is that suprarenal extract will benefit such cases as are at all susceptible of improvement. When carcinoma or tuberculosis is the cause of suprarenal disease, little can evidently be now expected from any therapeutic measure. Nevertheless, some of the cases of Addison's disease which have been ameliorated by this method have apparently been of tuberculous nature. The prospect for Addison's disease will brighten if the experiments constantly carried on as regards tuberculosis shall be rewarded by distinct success. There are other pathologic alterations to which this disease is sometimes due, and which will probably prove more amenable to the treatment. In conclusion, I would say that in a given case it would certainly be worth while to make a trial of suprarenal therapy.

Extracts obtained from other than glandular organs have been employed in the thought that a more direct nutritive supply to the cells might be possible by this means than by those ordinarily employed. Extracts of brain and spinal cord have seemed, to competent observers, to have a good effect in neurasthenia, locomotor ataxia, progressive motor dystrophy, senile debility, etc. Preparations of cardiac tissue have been injected for asystole, but the most remarkable temporary improvement was in the case of uremia under the care of M. Dieulafoy, and to which nephrine was given. The case, unfortunately, was too far advanced to be benefited by any mode of

treatment, but the temporary results were very striking.

Attempts have been made to influence the course of diabetes, more particularly pancreatic diabetes, by using extract of pancreas in such cases. Although this treatment had little or no effect upon the quantity of urine passed, yet it often had a favorable influence upon the patient's general condition. Pulmonary, ovarian, and prostatic juices have been made use of in diseases of the corresponding organs. Bone-marrow has given some very excellent results in pernicious anemia.

It is fair to ask whether suggestion does not play an important part in the improvement under such methods. This may, indeed, be a great factor in the care of functional nervous maladies, but pains were taken, in most instances, to eliminate its influence, and in organic disease suggestion would have less effect.

We seem now to stand upon the brink of a new era in therapeutics. We look to organic chemistry to furnish us with the active principles of tissues and serums, as it has given us the active principles of vegetable drugs. As the active principles of all plants have not yet been isolated, it need be no wonder that in a new field and dealing with complex animal tissues, this problem, for most substances, remains unsolved. A beginning, however, has been made. The efficacy of orchitic extract depends upon the presence of an organic crystalline substance called spermin, which exists in combination with hydrochloric acid. The active principle of the thyroid gland is believed to be the substance isolated under the name of iodothyron. In the same way the antitoxins, in so far as they have been discovered, may be looked upon as the active principles of the immunizing or curative serums. Schaefer and Oliver have obtained from the medullary portion of the suprarenal bodies an organic principle which has a powerful action upon the heart, voluntary muscles, and peripheral arteries.

The serums obtained from animals rendered artificially immune contain antitoxins, and have proved of more value than those from animals naturally immune to certain maladies. The typical instance of success in this form of therapy is diphtheria antitoxin. The wonderful reduction in the mortality from diphtheria which this preparation has affected can not be gainsaid. Every physician should seriously debate in his own mind whether he has done his duty in a case of diphtheria, if he has neglected to take advantage of the immunizing and curative properties of diphtheria antitoxin. As diphtheria is such a widespread disease,

every reason, humanitarian and sanitarian, as well as scientific, should combine to make us welcome this important advance in the treatment.

Though by no means as common as diphtheria, tetanus is a justly dreaded malady. Its terrible manifestations, and the failure of other methods are in glaring contrast to its improved statistics under an antitoxin treatment.

I shall merely allude to the progress of laboratory and bedside studies with serum-therapy in suppurative diseases, leprosy, cholera, and the plague. They depend upon similar principles and may require modifications as regards many matters of detail, but we may hope that in the end much good will be accomplished by these means. The problem concerning tuberculosis has not yet been solved. Notwithstanding the great and deserved scientific reputation of Professor Koch, his methods have failed to achieve the desired results. Nevertheless, it seems probable that he is working upon correct principles and that success will at length reward his efforts, or if not his own, those of some other observer.

Sanarelli is now complementing his brilliant investigations into the bacteriology of yellow fever by the attempt to treat the disease by means of an immunized serum. Some favorable clinical results have been reported and it is possible that the coming summer may see some experiments on a large scale among American troops on the island of Cuba. It is well known that Surgeon-General Sternberg is personally interested in the subject of the yellow-fever bacillus. Professor Chantemesse has recently read a paper upon the soluble typhoid-fever toxin and antitoxic serum of typhoid fever. In this important communication the author describes his experiments upon animals, and concludes in these words: "Fortified by these experiments, I injected some antitoxic serum into a patient suffering from typhoid fever. The value of this new method of treatment can only be determined by a statistical study and numerous observations. I may say, however, that the serum acted well in an antitoxic manner, diminishing and suppressing the nervous symptoms, lowering the temperature, and promoting the recovery."

A few years ago Drs. G. and F. Klemperer endeavored to obtain an immunized serum capable of curing pneumonia. Some encouraging clinical trials were made, but the serum did not seem to have sufficient strength to be practically useful. Others have labored in the same direction, and it has recently been announced that Professors

De Renzi and Pane, of the University of Naples, have devised a method by which large quantities of a powerful serum can be obtained. A series of cases was observed in which very excellent clinical results were obtained in Professor de Renzi's service, and in the *New York Medical Journal* for May 7, 1898, Dr. Antonio Fanoni, of New York, describes a case in which he made use of this method with success.

As analogous to the antidotal action of antitoxins and serums, may here be very briefly mentioned the antagonistic action sometimes seen between different diseases. Thus, a fever has been known to cause the disappearance of new growths or glycosuria, and impaired eyesight has been improved by an attack of smallpox.

It seems that at this juncture we must look to physiologic chemistry for assistance in further progress. With the isolation of the active constituents of the various glands and serums which have been thus far experimentally employed, we should be in a position to administer such remedies with greater precision and greater advantage. The chemistry of bacteriologic products has already given us a number of substances of definite composition. It is now highly desirable that all the organic juices, extracts, and serums should be analyzed in order that we may be able to estimate the comparative value of their constituents and study their physiologic action. The effect of the animal extracts upon the healthy animal has been the subject of an elaborate series of experiments by Professor Isaac Ott, of the Medico-Chirurgical College of Philadelphia. What is next of importance in the study of these extracts is that we should be able to determine the substance or substances upon which their activity depends in precisely the same manner as we have learned that morphine is the active principle of opium, strychnine that of nux vomica, ptyalin of the saliva, pepsin of the gastric juice, pancreatine of the pancreatic secretion, etc. As, however, pancreatine is not the sole digestive ferment of the pancreatic juice, or morphine the sole alkaloid of opium, so, it may be, the complex organic tissues may contain principles having various actions. If these various constituents can be separately prepared and their individual values estimated we may be able to administer them separately or combined, according as they may be indicated. This would constitute a step in advance and would enable us to prescribe the active principles of animal extracts with exactitude, just as we can now, at our discretion, order pilocarpine to represent jaborandi, or caffeine to represent *caffea*, etc. Another im-

portant advantage which would result from the chemical analysis of this class of remedies would be in obtaining standing or uniform products. As it is at present, we have a number of animal products obtained by different discoverers and prepared by different processes and having, perhaps, rival claims to our favor. Have we not reached such a point in the evolution of this subject that analogous preparations can in this way be standardized? It is necessary that the exact degree of the virulence of the toxins and antitoxins of therapeutic serums should be accurately known and should be maintained at a certain fixed standard, and this point was urged at the recent Ninth International Congress of Hygiene and Demography by Professor Behring. It appears that it should now be possible to determine a standard type of serum, especially anti-diphtheritic serum, according to which the therapeutic results reported by observers in different countries might be fairly comparable. At the congress referred to it was decided that a committee of experts should be appointed to consider whether there would be any advantage in having a uniform international standard of strength in the case of antitoxic serums. •

The processes by which all these preparations are made should be the common property of the scientific world, just as we have in the United States Pharmacopœia directions for preparing all the official products. Different specimens of any crude drug of vegetable origin will give quite a notably different percentage of the active constituent.

No matter what this variation may be, however, we know that when we make use of an alkaloid or glucoside we are dealing with a substance of definite chemico composition, the same under all circumstances and by whomsoever manufactured. Has not the time now arrived when such a work should be begun in reference to glandular extracts and curative serums? We should then appreciate more exactly upon what basis we stood. Finally, those which have been proved of value, as, e. g., iodothyron, should be made official and adopted into the United States Pharmacopœia, with full instructions regarding the mode of their preparation. The physiologic and therapeutic effects of these active principles of extracts and serums could then be separately determined. Their utility in medical practice could be more justly estimated and this new branch of applied therapeutics be placed on a more scientific foundation.

This, it seems to me, is the line along which future progress is to be made. The entire evolution of the subject under dis-

cussion is so recent, it is based upon conceptions so essentially modern, that we need not be surprised if all its promises have not yet been realized. The good which has been accomplished in diphtheria alone is an ample reward for the labor that has been spent in its development and a justification for the hope which is entertained of the success of this method of therapy in other diseases. It is based upon the most modern doctrines concerning bacterial activity, immunity, and mode of cure. A powerful trend has for several years been setting in in this direction, and the present status is the outcome of numerous independent or collateral lines of investigation.

Immunity is better than cure. If an immunized serum is capable of conferring immunity against a certain infection, it will be very readily comprehended that an immense boon has been conferred upon humanity.

If it be found that this immunity against an infection is not permanent, but lasts only for a certain time, it will be an easy matter to repeat the operation at stated intervals upon a fresh exposure, just as we now hold ourselves prepared to repeat the process of vaccination upon the outbreak of smallpox or after the lapse of a certain number of years.

This is, indeed, nothing more than we observe in nature, for although an attack of one of the eruptive fevers generally confers immunity for life, this rule is by no means universal. Other species of infection, as is well known, far from bestowing future immunity, predispose to successive attacks.

Experimental Research as to the Origin of Hydronephrosis and Its Relation with Movable Kidney

Prof. Hildebrand and Dr. Hagar (*Deutsche Ztschrft. f. Chir.*, Leipg., 1898, XLIX, 26-38) made a number of experiments on rabbits for the purpose of determining the causes of certain forms of hydronephrosis. The experiments consisted in the blocking of the ureters and in producing artificially movable kidney in a number of rabbits, and then after a time killing them and observing the results. The conclusions reached are as follows:

1. Blocking the ureter by sharply bending it, produces in animals hydronephrosis.
2. The production of movable kidney alone does not lead to hydronephrosis, even if the movable kidney has existed for a long while.
3. Also, even if the condition of movable kidney is complicated by twisting of the pedicle hydronephrosis is still not produced.

T.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Movement Test for Lumbago and Ischias

According to Dr. Minor (*Deutsch. med. Woch.*, Vol. XXIV, No. 23, 1898) the above disease may be distinguished by the manner in which patients raise themselves from a seated position on the ground. In lumbago the patient bends forward and raises himself by pressing down on his legs. In sciatica the patient throws his body backward and raises himself by placing one hand behind him. S.

On the Patellar Reflex Studied at Three Intervals in General Paresis

Marandon de Montyel (*Annales méd-psych.*, Vol. 8, 1898, p. 196) states that in the general paresis the increase in the patellar reflex is apt to be much more often found than loss or diminution. The changes are most often found in the early stages and in the depressive form of the disease the increase in knee-jerks is marked. He argues for the non-cortical influence on the reflexes since they are less often found the more profound are the cortical changes. They are of little prognostic value. They often remain constant during a remission. There would seem to be no relationship between them and the taste and pain and sensory changes. J.

Growth as an Agent in (1) Production and (2) Removal of Deformity

Howard Marsh (*Brit. Med. Jour.*, July 2, 1898) directs attention to two forms of growth: (1) that by which the stature of the individual is originally attained, and (2) that which, until the occasion arises, remains in reserve. In surgery these two forms are potent agents according to the conditions under which they act, leading either to deformity or conducing to its removal. Growth producing deformity is met with when the influence of the law of conformity of type, which ought to regulate the process, is interrupted or inhibited by some other influence of a stronger kind, as in deformity from overgrowth, or congenital hypertrophy, e. g., Hunter's experiment, in which the spur of a cock, which was transplanted from the leg into the much more vascular comb, grew to be six inches long. Growth, al-

though it is in itself and in its surroundings perfectly normal, may produce a gradually increasing deformity; thus the lower jaw may during growth be diverted from its typical shape by the dragging action of a scar in the neck. As to growth as an agent in the removal of deformity: In a case of rickets with excessive bow legs operations had been done on the tibiae necessitating the child lying on its back for twelve months; the femora, although in the beginning much curved, had not been operated upon. After twelve months, when the femora were examined, it was found that while, by lying on the back, the weight of the body had been removed, they had under the undisturbed influence of the law of conformity to type, regained their normal shape and resort to osteotomy was found unnecessary. In very young rickety children the deformity is very marked because, when the bones are deficient in rigidity the weight of the body is a stronger influence than the law of conformity to type. But when, a year or two later, the rickety state has become less marked, or has entirely ceased, and when the bones have regained their natural strength, they gradually, without surgical interference, grow straight. But sometimes the rickety condition is present in a more aggravated degree; unable, under such circumstances, to restore a curved tibia to its normal shape by ordinary growth, it calls forth the other form of growth—that which is latent or in reserve—and by its means develops a buttress in the concavity of the curve, which effectually prevents any further bend—in other words, any further divergence from the normal type. Although such a buttress prevents further deformity, it also prevents or limits the correction of the deformity by future growth, for it acts as a strong tie-beam, and often renders the curvature to a great extent permanent. The practical point is that in the early stage these deformities can be easily limited or removed by treatment, by which the rickety state is corrected and by keeping the patient much off his feet, so that instead of allowing the weight of the body to supersede the influence of the law of conformity to type, this latter force shall exercise its normal influence on the result of growth. G.

Some Points in Infant-feeding

The safe rule for modifying milk, writes Dr. E. Rosenthal (*Pa. Med. Jour.*, July, 1898), is not to apply a fixed law of percentages, but to prepare the milk to the child's needs. The formula given by Rotch is a good working basis: Fat, 4 per cent.; milk-sugar, 7 per cent.; proteids, 1 per cent.

This may be altered to suit any case by varying any of the ingredients. Heat the milk, but not so rapidly as to scorch or burn it; so-called sterilization is unnecessary. From the first day of the infant's life the best possible cow's milk (obtained direct from the cow and heated without the cream being removed) is diluted equally with boiled water, table-salt (not enough to be tasted) is added. Of this give $\frac{3}{4}$ ij every two hours. Examine the stools for possibly undigested particles. If digestion is incomplete, or if this food is insufficient, choose barley or oatmeal water, the former when there is diarrhea, the latter when there is constipation. If diarrhea persists use Imperial granum, $\frac{3}{4}$ ij two hours to a child one month old, increasing $\frac{1}{4}$ $\frac{3}{4}$ per feeding with each month; and in preparing the food omit for each month 1 oz. of water and substitute for it 1 oz. of milk. Mellin's food requires no skill in its use. When milk is contra-indicated substitute pure albumen—the white of one egg, four times its bulk of pure sterile water, and a pinch of salt; give this much every two hours. Twelve eggs in the twenty-four hours may be well borne.

Gaertner's mother's-milk ("fat-milk") is a pure and simple food. Use salt with all foods. Give a drink of water occasionally. S.

Administration of Anesthetics to Children

Dr. C. F. Marshall (*The Hospital*, Vol. XXIV, No. 622, 1898) remarks that in spite of the large death-rate from chloroform-administration, there is still a too prevalent idea that this drug is the best routine anesthetic for children. After considerable experience among children, the writer found a mixture of equal parts of chloroform and ether to be the best mixture. This, he thinks, is better than the A. C. E. mixture. The ether evaporates more quickly than the chloroform, and hence during the first few minutes the child is breathing chiefly ether, which tides over, so to speak, the initial depressing period of the chloroform, the most dangerous time during chloroform-administration. It is, no doubt, true that children take chloroform well as a rule, but this is no argument in the face of the high death-rate from chloroform; and if other safer methods can be used, we are bound to do so.

There are some differences between the anesthetization of children and adults. The corneal reflex, which is the guiding star of the anesthetist in adults, is quite useless in children, being lost long before the patient is under. A better test, in the writer's opinion, is to sharply pinch the inner side of the thigh. If this produces no reflex

contraction of the leg, the patient is fully under the anesthetic. All reflexes are more active in children than in adults, and movements often occur when consciousness is abolished. Owing to this excess of reflex excitability, it is important not to begin the operation till the child is fully under. Many so-called deaths from anesthetics are, the author believes, really due to the operator commencing too soon.

In many cases where elaborate antiseptic precautions are taken, the child is more or less enveloped in wet towels soaked in antiseptic solutions; these soon become cold, and the child is practically anesthetized in a wet pack which greatly adds to the shock of the operation and to the danger of the anesthetic. Such a danger may be avoided by placing the child on a hot-water bed by charging the antiseptic cloths with lotion kept hot. In severe and prolonged operations the child's limbs should be wrapped in flannel bandages. S.

Local Muscular Weakness as a Cause of Joint-irritation

R. W. Lovett (*Bost. Med. and Surg. Jour.*, Vol. CXXXIX, No. 11, p. 269) insists upon a factor which seems to play an important part in joint-affections, especially in the late history of joint-injuries and inflammations. Several cases are offered in detail in illustration of this. In the first case, the history led the writer to suspect that the muscular debility was primary, permitting the various sprains rather than resulting from them. In the second, the condition seemed to be a muscular weakness, the outcome of an accident, outlasting the inflammation by many months and yielding only to measures directed to the development of the muscles. The third case offered a joint apparently imperfect from the beginning, kept in a state of irritation by muscular weakness; and the congenital disability which with proper muscular support would not have been a source of trouble became a troublesome and painful factor when the muscles were weak. These cases suggested the relation of muscular weakness to joint-pain, that of cause and effect. All showed some points in common, a slight injury followed by complete or partial recovery, certain symptoms recurring after other slight injuries or spontaneously and then a gradual increase of these up to a point where surgical advice became necessary. In a joint which is the source of trouble months after accident, when there are no signs of extensive chronic joint-disease, an investigation of the muscular condition becomes of value. It should be borne in mind that

what resembles chronic joint-inflammation very closely may apparently result from muscular atrophy as well, which calls attention to the importance of limiting, so far as lies in the surgeon's power, the muscular weakness which occurs necessarily in connection with joint-inflammations. If this be not done, the muscular weakness alone may become a source of joint-irritability.

L.

Treatment with Spleen and Thyroid Extract

Dr. Bois and Dr. Kerr, after having investigated the subject, make the following deductions (*Brit. Med. Jour.*, September 10, 1898):

1. The most general result of this treatment is physical improvement.

2. Its action on the mental state is undoubtedly evident in a fair proportion of cases, especially of adolescents, sometimes direct, at other times owing to improved physical conditions.

3. It materially assists in rendering thyroid treatment efficacious, the patient, after a course of spleen-treatment, being more susceptible to the action of thyroid.

4. When it fails, there may be a defect in the preparation of the extract. The authors have found that capsules of the liquid extract are best. The desiccated spleen, which is usually employed for tablets, must necessarily lose some of its active properties.

5. It is best given at least half an hour before meals. In conclusion, it is not necessary to say more than this: That if collective investigation of the treatment were taken up and persevered with, spleen-extract would prove itself well worthy of a place in the treatment of mental disease.

R.

The Influence of Disease of the Stomach upon Nasal and Postnasal Catarrh

From a clinical standpoint, C. D. Conkey (*Med. Times*, Vol. XXVI, No. 8, p. 236) is strongly impressed with the belief that there is an extremely close relation existing between chronic catarrh of the upper respiratory tract and catarrhal conditions of the digestive organs, and offers the following reasons therefor: 1. Clinical cases of nasal and postnasal disease are apt to give a history of stomach-trouble, or at the time of examination, to show signs of such derangement. These may be mild, such as a coated tongue, fermentation and constipation; or, pronounced gastric symptoms of such a character that the patient, unaided, will trace a sequence between the two sets of organs. The patient will often volunteer the statement that his catarrh is always

worse when his stomach is troubling him most. 2. Nasal and postnasal catarrhs are invariably made worse by unusual stomach-disturbance. This fact the writer has observed time and again. An attack of hemiplegia will often in like manner aggravate a chronic nasal catarrh, greatly increasing the usual discharge and also producing such engorgement of the turbinates upon the affected side as to produce occlusion of the nares on that side. 3. It is a well-known fact that chronic pharyngitis and other pharyngeal troubles are largely dependent upon the stomach for their presence. It would be folly to treat them locally without, at the same time, directing our therapeutic measures to this organ. The writer's observations lead him to believe the whole pharyngeal tract to be intimately associated and subject to the same modifying influence, differing only in degree. 4. These cases improve under treatment directed to restoring the digestive organs to their normal conditions, and will not improve to any marked extent without a correction of the existing digestive error even though vigorous local treatment be carried out at the same time.

L.

The State of the Superior Facial and of the Common Motor Oculi in Cerebral Hemiplegia

M. Ch. Mirailié (*Bull. méd.*, August 17, 1898, No. 66, p. 807) contributed to the recent congress of French alienists the statement that in two recent communications to the Society of Biology, he maintained that in hemiplegics, every time that the inferior facial was paralyzed the superior facial was also, but in a less degree. This paresis manifested itself by drooping of the extremity of the eyebrow and lessening of the field of movement of the paralyzed eyebrow which moves by jerks. The narrowing of the palpebral cleft seen in certain cases is due to reduced tonicity of the common motor oculi. He then reported four new cases of hemiplegia with such participation of the superior facial in the paralysis; in three of these the palpebral cleft was narrowed, showing lesion of the motor oculi. H.

Importance of Lime-salts as Cause of Rickets.

Heitzman, to produce artificial (experimental) rickets, fed different animals with lactic acid, says A. Delcourt (*Jour. de Cliniq. et de Thérap. inf.*, No. 31, August 4, 1898, p. 609). At the end of a few weeks the carnivora (dogs and cats) showed evident signs of rickets: continued, this gave place

to osteomalachia. The herbivora were taken at once with osteomalachia, on commencing the feeding. Heiss repeated Weitzman's experiment for 308 days with food poor in lime and rich in lactic acid without causing osteomalachia or rickets. But he experimented with the adult dog, not suitable for the experiment. Baginsky, in 1882, repeated the experiments and concluded in favor of Weitzman's results.

Delcourt repeated these experiments with two rabbits of the same litter, kept in separate cages. He gave the same weight of carrots to each; but to one of them were given also 2 to 10 cc. (3 i to 3 ii) of lactic acid daily. Analysis of the stools showed that the lactic acid increased the elimination of the lime. The rabbit which took it developed very little, the other increased regularly in weight. The weight in the former varied with the proportion of lime eliminated, increasing when that diminished and decreasing when that increased. In two months this rabbit died, having eliminated more lime than it had received, and it weighed only 720 gme. The control-animal weighed 2,300 gme. The bones of the latter were hard and resisting, those of the former soft, light, and easily cut with a knife. The lime present in the bones of these two animals was found by chemical analysis to be seven times as much in the former as in the latter. The microscope did not show lesions characteristic of either rickets or osteomalachia, but the bones of the lactic-acid-fed rabbit showed lack of development. The cartilage was scant with little ossification at the cartilage-ends. The conclusions fixed are these:

Lactic acid added to the food increases elimination of lime.

The amount of lime eliminated may exceed the amount absorbed.

Food poor in lime and containing lactic acid is capable of causing in the rabbit a condition analogous to rickets. H.

Purulent Pleurisy

Dr. W. C. Stick (*Pa. Med. Jour.*, July, 1898) cites a case to show that extensive empyema may exist with almost no symptoms; he observes also that the infection may enter through ulcers in the bowels and may be carried to the pleura through the lymph-channels. Another case is cited where a negative puncture was followed two hours after by rupture of pus into a bronchial tube, thence filling the lungs; death followed a few minutes after. In another case a diagnosis of pneumonia had been made; in ten days the patient died. At the autopsy, an ordinary wooden buck-

etful of serous fluid was pumped from the right pleural cavity. Posteriorly and laterally were old adhesions, covering a space six by eight inches, and binding the lungs and chest-wall closely together, thus accounting for pronounced vocal fremitus, bronchial breathing and bronchophony, signs upon which the diagnosis of pneumonia had been made. These and other cases illustrate: 1. The great importance which adhesions play in the diagnosis of purulent pleurisy. 2. That suppurative pleurisy will be frequently overlooked if we put too much weight upon the evidence afforded by auscultation and percussion, particularly in the case of children. 3. That purulent and serous pleurisy may exist upon the same side, at the same time, and 4. That rib-resection will enable us to dispense with drainage-tubes, break up septa, and to remove fibrinous deposits, which are said to form the starting-point of subsequent tuberculosis. S.

Treatment of Seasickness

H. Taylor (*Lancet*) says that the nausea and subsequent vomiting of the first few hours are to a passenger prone to this malady almost inevitable, but seldom require interference, though the retching may become distressingly violent and, if accompanied by streaks of blood, especially alarming to the patient. He has found that the best way of relieving this condition is to apply a mustard leaf to the epigastrium, to give a hypodermic injection of morphine, some crushed ice to suck, and to insist on the recumbent posture being maintained by the patient. A whiff of amyl nitrite or chloroform is often useful; alcohol is best avoided, though a little iced champagne may be sipped in very small quantities. The frequently present constipation must be relieved by an enema or suppository, as purgatives by the mouth will usually be quickly rejected. Too much must not, however, be expected of this or any other line of treatment, but the urgency of the symptoms usually abates in from twelve to forty-eight hours, the patient gradually acquiring that stability of the nervous system nautically termed "getting his sea-legs." The cases of prolonged nausea and seasickness in which the patient refuses or rejects all food, are very trying, both to the invalid and the surgeon. If the cabin is a fairly large one and is not crowded, the author thinks these cases do better in their berths than on deck, though meddlesome friends will urge them to go on deck, to "walk about," and to "fight against" the malady. This unequal combat generally ends in the

victory of Father Neptune, and the vanquished one staggers or is carried below—sick, blue with cold, and generally wretched. Hot bottles, blankets, a little stimulant, or hot beef-tea, will quickly make the patient more comfortable. For general fluid nourishment the writer uses beef-juice. These are often retained, especially if the first two are mixed previously with a little powdered ice and administered in teaspoonful doses. If they are rejected they should be given again directly the fit of vomiting is over. As regards drugs, a mixture of chloroform, nuxvomica, and compound tincture of lavender proves quite successful. An alkaline stomachic mixture with nuxvomica is also useful after the acute symptoms have vanished; it assists a languid or capricious appetite. A dose of potassium bromide and chloral or a hypodermic injection of morphia is beneficial at night, allaying restlessness and procuring sleep. The author has never seen the numerous "quack" remedies do the slightest good, nor has he ever seen the at-one-time much-vaunted "chlorabrom" retained where potassium bromide and chloral were rejected by the stomach. The farewell dinner or other jollification the day before commencing a sea-voyage is to a person subject to seasickness the very worst possible preparation for it. A blue pill followed by a Seidlitz powder is far better, though certainly not so festive. S.

Treatment of Hemorrhage in Typhoid Fever

H. G. McCormick (*Pa. Med. Jour.*, July, 1898) condemns the use of opium and acetate of lead. He would use instead a saline laxative and would wash out the colon with ice-water. By this plan the author considers that the canal is cleared out, the clots of blood and other material are carried off and all tension upon the bowel is relaxed. The bowels should always be kept open in typhoid fever; hardened feces are not a good application to an inflamed and ulcerated bowel.

It was observed in the discussion that ulcers are found in the large intestine in but one-third of all cases and that the intestinal contents are fluid until they pass the ileocecal valve. G.

Oculo-neural Reflex Phenomena

"Sympathetic" ophthalmitis, states W. B. Meany (*Louisville Jour. Surg. and Med.*, July, 1898), may be, but is not always, the result of "irritation;" it may be acute or so insidious as to escape notice until well advanced. It may appear in one week or after forty years. Several substitutes for

enucleation are unfavorably criticized by Dr. Meany; if the bacterial theory of this affection is correct such operations cannot be efficient safeguards against sympathetic phenomena. Neurotomy, optico-ciliary neurectomy, or other operations which permit retention of a portion of a diseased globe afford only temporary relief. Evisceration, when a glass or silver sphere is inserted in the excavation, often results in prolonged inflammatory discharges and incomplete union of tissues. Enucleation is a benign operation and is indicated especially when eyes have been crushed by blows, when neoplastic growths may prove malignant, where the eyes have been penetrated by foreign bodies which are not removable, and where "sympathetic irritation" is threatened. The exciting eye should be excised at once if it is evidently rendered useless by the wound. G.

Mental Disorders

Pennsylvania, states Dr. B. H. Detwiler (*Pa. Med. Jour.*, August, 1898), has an insane population of 11,800; this degeneration, the author believes, is caused, not by our receiving the most undesirable inhabitants of Europe, nor by the stern competition of American life, but through our defective marriage-laws. Hereditary history of insanity, of alcoholism, and of syphilis will be found in the cases of most of the insane cared for by the state. From 75 to 80 per cent. of those who have cerebral exhaustion due to mental over-strain and are treated early, will recover; where heredity, syphilis, or alcoholism is the fundamental cause, the percentage of cures is from 1 to 5 1-5 per cent. The author would advise general marriage-laws, so that a license for marriage would include exemption from heredity and acquired diseases. G.

Actinomycosis of the Lacrymal Sac

Mitvalsky (*Arch. d'Ophthal.*, No. 8, August, 1898) gives a minute history clinically and microscopically of a case of actinomycosis in the lacrymal sac in a patient of 65 years of age having an old dacryocystitis. It was the first case the author had seen of the existence of actinomycosis in the sac. Tomassoli, Schroeder, and Evetsky had described such concretions in the lacrymal canaliculi, but none of them in the sac. The fragment removed was as large as an almond and of the consistence of hard paste, and greenish with yellowish points.

Microscopical examination showed the ray-fungus and also streptococci and colonies of *Staphylococcus pyogenes*.

He concludes that the actinomycosis is

here a secondary one in this lacrymal sac since the sac was pathological with dacryocystitis which had already caused a fistula. Such a mucous membrane often becomes the seat of secondary infections, especially of the tubercular. The actinomycosis here had taken possession of and completely destroyed the lacrymal sac and the neighboring cellular tissue without affecting the epidermis or the periosteum at all. The development of the actinomycotic concretion had surrounded it with a chronic granular tissue vascularized peripherally.

The writer raises the question whether the coexistence of the colonies of staphylococci and the actinomyces is as peaceful companion parasites, or is it rather a warlike invasion by one parasite of the pathological soil of another? In the present instance regressive changes had gone on in the ray-fungus and the author concludes that the *Staphylococcus pyogenes* had invaded secondarily the actinomycotic vegetations. Yet at the same time the coccus kept invading the peripheral zone in advance of the ray-fungus and thus helping to spread it. Without such a prepared (pathological) soil, the author thinks the actinomyces would not develop in the lacrymal sac. H.

Acute Streptococcal Enteritis

W. C. C. Pakes and J. W. Washbourn report a case (*Brit. Med. Jour.*, June 18, 1898) in which the symptoms were those usually attributed to ptomaine-poisoning. Bacteriological examination pointed to an actual infection with streptococci starting in the wall of the jejunum; these being found in large numbers in the intestinal contents, in the tissues of the inflamed portion of intestine, in the blood of the heart and in the liver. The streptococcus, as far as morphological and cultural characters were concerned, was similar to the *Streptococcus pyogenes*. It was pathogenic to mice on subcutaneous inoculation, and produced local lesions in a rabbit and guinea-pig. The bacillus, which in addition to the streptococcus was found in small numbers in the blood and liver, was probably an anaërobic putrefactive bacillus growing only in the temperature of the body. G.

Disease and Changes in the Spinal Column in Fatal Anemias

Moxter (*Med. Press*, Vol CXVII, No. 9, p. 218) states that the condition of the spinal column in the grave anemias had been variously described by investigators, some referring to superficial changes in the posterior columns, particularly about the vessels, while others described cord-like changes;

others again referred to small hemorrhages and a combination of these changes. Photographs and microscopic preparations were shown in which the transitional forms between these various changes could be recognized. During the last year and a half six cases of fatal anemia came under observation in Leyden's clinic, in which the condition of the blood was not different from that usually found in such cases. Nervous symptoms were absent in two cases, although after death marked changes were found in the posterior columns. In these cases the nervous symptoms came on with the anemia, in one case paresthesia came on during the first three months of the blood-disease. In one case there was ataxia of the lower extremities. The photographs and preparations showed superficial changes in the posterior columns of irregular form. One picture showed a confluence of patches, others cord-like degenerations. Secondary degeneration was also pointed out, the preparation showing recent sclerosis of the vessels. These changes were all in the white substance. No changes were present in the ganglionic cells. Some preparations showed small hemorrhages, probably in consequence of perivascular changes, as had previously been suspected. Jacob, in the course of the discussion, said one could not speak of anemias as secondary to other diseases, as the appropriate treatment for the disease was powerless as regarded the anemia. The hypothesis was that in lethal anemias, a certain poison circulated in the body, and the other diseases, such as syphilis, for instance, simply set it free. L.

Some Usually Overlooked Physical Signs and Symptoms in Chest-diseases

N. Bridge (*Bost. Med. and Surg. Jour.*, Vol. CXXXIX, No. 5, p. 113) brings forth an instructive paper on the subject. The point is made evident that pulmonary tuberculosis is usually unilateral at the beginning, thus having a normal side of the chest for comparison. A slight lessening of the vesicular murmur on inspiration, or slight increase in the expiratory sound, at first without the tubular quality, may be detected at first. In comparing the two sides one should note even a slight difference between them in : (a) Length of the inspiratory sound; (b) intensity of the normal vesicular quality of that sound; (c) length of the expiratory sound; (d) intensity of the sound and elevation of its pitch above what is normal; (e) vocal fremitus on the uttering of words that cause an extreme vibration, as *ninety-nine*; (f) the transmission to the auscultatory ear of the ordinary

voice and soft whisper. Finding any slight changes in the two sides, a comparison should be made all over the lungs, noting where they are most evident. The writer prefers the back as being the best region for such comparison. Striking a zone at about the lower angles of the scapula, it is perceived that the vesicular murmur on inspiration is a trifle less pronounced and the expiratory sound perhaps a trifle more so and longer. Above the level the difference is progressively greater, the vesicular murmur growing less and the expiratory sound greater, longer, and higher in pitch. If the bronchi are not closed by phlegm, tubular breathing is most striking over the seat of the deposit. If the difference between the two sides is slight and uniform over the whole of both lungs at the back, and there are no other signs, a former pleuritis is probably the cause. In many cases the physical signs are markedly reduced, especially the râles, by deep inspiration and failure to expire freely, which fact may hide all symptoms. The patient should be taught to expire profoundly and at the end thereof if he be made to cough, râles will most unexpectedly be brought out. In a lung with beginning tubercular deposit in the upper part near the larger bronchi, the vesicular murmur is sometimes lessened over the whole lung, except the part that lies directly above the deposit, and there is very little expiratory sound with little of the tubercular quality and few or no râles, while the vocal fremitus is still moderate in degree and the percussion-resonance nearly normal, but there is reduced transmission of voice-sounds. Such a condition can only be explained by assuming complete closure of some of the bronchi, by pressure from without, by thickening of their walls or by thick phlegm. A striking tendency to error, according to the writer, is shown in cases of fluid in the pleural cavity in young children. In such there is little or no dulness over the lower part of the chest, especially on the left side. Gas in the stomach or bowels almost completely masks this sign.

L.

Treatment of Burns

For superficial burns, picric acid is of great advantage. It not only procures rapid resolution, but its analgesic action is marked in the majority of cases when employed properly. In deep burns it may give rise to toxic symptoms. It deeply stains the hands of the surgeon unless they are previously smeared with vaselin. Alcohol or soap and boric acid will remove the stain. D'Arcy Power (*Am. Jour. of Surg. and Gyn.*, June, 1898), who employed it exten-

sively, uses a solution made by dissolving $1\frac{1}{2}$ dr. of picric acid in three ounces of alcohol, which is then diluted with two pints of distilled water, a saturated solution being thus procured. The clothing over the injured part should be gently removed, and the burned or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton-wool soaked in the lotion. Blisters should be pricked and the serum should be allowed to escape, care being taken not to destroy the epithelial surface. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton-wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly moistened with the picric-acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week. The great advantages of this method of treatment are: First, that the picric acid seems to deaden the sense of pain; and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

S.

Etiology and Treatment of Chorea

Dr. Moncorvo reports several cases of this affection and concludes with the following summary (*Pediatrics*, October, 1898):

1. The frequency with which nervous and other symptoms are met in chorea places beyond doubt their influence as etiological factors.

2. Hysteria appears to exercise a marked influence on the onset of chorea so much so that some authors have regarded the latter as a form of it.

3. According to certain writers who have remarked the close connection between chorea and the infectious diseases common to a secondary affection, it is the sequel of these virulent diseases.

4. On one hand, the close relation between chorea and rheumatism, so long admitted by clinicians of the highest standing, and, on the other the bacteriological nature of rheumatism as proved by Achalmé, Thiroloix, Triboulet, Coyon, and

Ladoc, lead him to see in chorea only the cerebro-medullary tendency of a rheumatic infection developed in the hysterical or neurasthenic temperament.

5. Of the numerous remedies to which resort has been made in the treatment of chorea, the author gives the preference to those derived from the aromatic series, such as antipyrine (the proper dose of which he has determined), exalpine, asaprol, and analgine.

6. While these remedies have been of undeniable efficiency in the treatment of rheumatism, it is equally true that under their action all choreic manifestations disappear within the space of from eighteen to fifty days.

7. The author's personal observations have assured him of the successful outcome of this treatment, at least in the case of children whose subsequent history he has been able to follow. R.

Nasopharyngitis

Dr. L. C. Cline (*Ind. Med. Jour.*, August, 1898) considers that nasopharyngitis is always associated with some chronic, morbid condition of the upper air-passages or the digestive tract. Success in treatment depends on one's ability to locate and correct the first cause. G.

Case of Double Facial Paralysis of Bulbar Origin

Mally (*Bull. méd.*, No. 66, p. 807, August 17, 1898), of Paris, notes the following: A patient of 67 years, after a loss of consciousness, presented double facial paralysis. Electrical examination showed complete action of regeneration on the left, and normal reactions on the right side. The right facial recovered functions after two months, the left remained paralyzed. This case shows, first, the value of electrical examination and second, the inutility of electrical treatment in cases with reaction of degeneration. On the contrary, undegenerated muscles are susceptible of benefit in considerable degree by local and general electrical treatment. H.

Hay-asthma

From the study of numerous cases, and the result of treatment in twenty cases reported by J. F. Barnhill, Indianapolis (*Med.*, Vol. IV, No. 8, p. 625), the following beliefs are offered: That where it is possible to remove or correct the oversensitive areas in the upper air-tract, cure or great benefit may be confidently expected. That when such sensitive areas are due to causes comparatively inaccessible, as inflammation or necrosis of the ethmoid, or to great deform-

ity or thickening of the septum high up, the prognosis is not good. That while constitutional, dietetic, and hygienic measures are of great value, the most beneficial results are to be expected from that treatment which relieves the upper air-tract of its hypersensitive pressure-areas. L.

Cortical Centers for the Viscera

Paul Sollier (*Bull. méd.*, No. 68, August 24, 1898), before the French Congress of Alienists, August 1 to 7, 1898, brought new cases in support of his former researches on the possibility of determining experimentally and clinically in hysterical cases with monosymptomatic manifestations, the localization of certain cortical centers of the viscera, by the so-called *painful points*. The method is based on the fact that, in all well-marked anesthesia or hyperesthesia of an organ or member whose function is diminished or lessened, there are a corresponding anesthesia and painful point of the cranium corresponding to a limited anesthesia of the brain. Experiment has shown that there are peripheral regions whose centers are now anatomically and definitely determined. When they are affected these painful cranial points correspond to the cerebral region containing their functional center. It is logical to infer that the viscera have similar centers not yet discovered. The author brings three new cases bearing on the stomach-center and three on the heart-center. For the stomach a bilateral point is found on the upper parietal convolution on the prolongation of the posterior branch of the fissure of Sylvius; and for the heart, on the median line itself, at a point above the preceding. H.

Toxic Amblyopia

A. Critchett (*Brit. Med. Jour.*, June 18, 1898) reports a case due to iodoform-poisoning. An elderly woman suffering from an extensive cancerous ulceration of the breast had been applying iodoform to it over a period of three years. She developed somewhat suddenly extreme amblyopia, lost the recognition of all colors except blue, for which she had a large central scotoma, and was found to have slight pallor of the outer half of each optic disk and a small granular change to the inner side of each macula lutea. Since the iodoform had been stopped (ten weeks) the return of her color-vision had been very decided, and she could recognize any color by indirect vision, but she still had a large central scotoma. The visual acuity was still very bad, though it had shown some improvement. G.

SURGERY

GEORGE B. WOOD, M.D.

VINCENT GOMEZ, M.D.

HEBER N. HOOPLE, M.D.

On the Frequency of Cryptorchism and Its Results

N. Senn (*N. Orl. Med. and Surg. Jour.*, Vol. LI, No. 2, p. 86), referring to cryptorchism and incomplete descent of the testicle as congenital defects, the frequency of which has never been established by reliable and extensive statistics, gives the results of his investigations into the subject by the examination of 9,815 recruits for the volunteer service at Camp Tanner, Springfield, Ill., as follows: Cryptorchism—right side, 12; left side, 22; both sides, 1. Incomplete descent of testicle—right side, 10; with hernia, 2; left side, 14. Total number 59 cases. It will be seen from this that out of fifty-eight cases of unilateral incomplete descent, the left side was affected thirty-six times, the abnormality thus being more frequent on that side. In the single case where the defect was bilateral, the inguinal canals were found completely obliterated, no trace of the testicles being found, although the man was in excellent health, married, and (said to be) the father of several children. The fact seems to be established that cryptorchism and incomplete descent of the testicle are attributable rather to an imperfect development of the organ than to a failure to reach its normal destination at the right time. L.

One Hundred More Mastoid Operations

Dr. B. A. Randall's statements (*Pa. Med. Jour.*, August, 1898) have the authority of experience. Nasopharyngeal inflammation is, he says, the starting-point of almost all cases of mastoid disease. Therefore spray and gargling with cleansing and sedative solutions are appropriate prophylactic measures. Moreover, as the height of the tympanic inflammation is the main danger to the ear, this is to be controlled by rest in bed, antiphlogistic measures, hot applications by day, heat to the mastoid surface and douches in the canal as hot as can be borne, and blood-letting by leeching or by incision of bulging and threatening areas of the drum-head or canal-wall. Wilde's incision is deprecated for most cases; the pus upon the mastoid surface is likely to be the overflow of that which fills the mastoid cavities, therefore the more radical operation is to be preferred. The author observes that "as soon as we have pus demonstrably present in an ill-drained or closed position,

there is no excuse for sanguine inaction." We should operate only when reasonably sure of need, if we do so the work must be done thoroughly. A clean sweep, removing as much as possible the diseased tissue, is to be made and every sinus is to be explored. As to technique, boring instruments are not safe; use a good gouge and a spoon. Take plenty of room—a four-inch incision should heal as soon as a small one. Bare the bone as widely as its due study makes desirable. Chisel away as much cortex as the needs or the uncertainties of the condition call for; control all bleeding by pledgets or strips of gauze; see as well as feel with finger and probe every portion of the cavity-wall. The author's assistant usually goes over the field when all seems done; and then he researches for some possibly undetected lesion. If a broad spoon is used, the thin wall of the dural surface may be dressed down very smooth with safety, and the dura itself may be scraped free of granulations even when they are on the wall of the wounded lateral sinus. In acute cases good drainage may suffice; but in long-standing tympanic suppuration, the tympanic cavity should be emptied of carious ossicles, granulations and remains of drum-heads and the upper-back wall of the canal should be removed to open the antrum and attic freely into the meatus. In a week or two the patient should be about. G.

Excision of the Thyroid Gland

Dr. T. C. Detwiler (*Pa. Med. Jour.*, August, 1898) states the following indications for this operation: Failure of previous treatment; dyspnea sufficient to prevent active employment or inability to bend the neck in sedentary employment; tracheal stridor or downward extension of the bronchocele; difficult deglutition; steady or rapid enlargements with or without dyspnea, with threatened growth downward and a tendency to become sub-sternal; to improve personal appearance. The contra-indications are: High bronchoceles, especially if broadly fixed; calcified bronchoceles; those with ill-defined limits; those which are sub-sternal; those occurring after 50; and in persons with very feeble hearts. The dangers of the operation are: 1. Hemorrhage, which, though great, can usually be overcome by care; not the arteries, but the veins, which are unusually large and thin-walled, and in severe cases form a network over the glandular surface, are to be feared. 2. Injury to the recurrent laryngeal nerve. 3. Septic cellulitis. 4. Myxedema. This complication can be avoided by leaving a part of the gland and isthmus behind; if

this should be impossible we should have as perfect control over this disease, artificially induced, as we have by the use of thyroid extract in idiopathic cases. The operation: Patient is on his back, his shoulders well raised, and a sand-bag or hard support under his neck. The chin should be kept in line with the sternal notch. The anæsthetist stands at the head of the table using chloroform, as ether causes too much engorgement of the veins of the head and neck. A free incision uncovers the lobe (a V-shaped incision is generally not necessary). A straight or a slightly curved incision will usually answer, and the resulting scar will be almost hidden by the folds of the sterno-mastoid. The skin, platysma, and fascia are divided, the veins met with being secured between double ligatures and cut and the muscles on the surface of the gland which are often very thin, from being stretched, being ligated and divided. The sterno-mastoid can, if necessary, be cut, but it can generally be separated and pressed to one side with the carotid artery and the jugular vein. In dissecting out the lobe an Allis blunt dissector, or a periosteal elevator, or a blunt-pointed pair of scissors, curved on the flat is used; no violence, but the utmost gentleness is necessary. Use the handle rather than the blade of the knife. Examine tissue thoroughly before cutting it. A vein on the stretch can easily be overlooked—and if cut from even a small vein a surprising amount of blood may flow. It is well to raise the head frequently, so that the veins may fill and become visible. Hemostats cannot be trusted, the veins being in most cases too thin to hold. Step by step the front of the gland is cleared. Then the lateral margins are cleared and the arteries are ligated. Secure the superior thyroid between double ligatures and cut, using an aneurism-needle if necessary. The next step, according to Treves, is to go down and tie the inferior thyroid and the median if it exists; Jacobson would attach the isthmus. A steel director is passed between the isthmus and the trachea and the former is either ligated as a whole or cut and the bleeding points ligated as found. As much healthy gland-tissue as possible is left encroaching on the tumor as far as the healthy gland-tissue will admit; there will then, if it is necessary to remove both lobes, still be left the isthmus and a little healthy gland-tissue on each side—and so the danger of myxedema may be avoided. The gland is now turned from side to side, lifting it from its bed, slowly proceeding downward. Make as little traction as possible on the trachea; otherwise intense dyspnea may result. It may be necessary to

cut the attachment between the lobe and the trachea. Ligate each bleeding point as it appears until the lower limit of the growth is reached. Then comes the most dangerous and the most difficult step—to ligate the inferior thyroid and *not* to injure the recurrent laryngeal nerve. Baumgartner, Credé, and McCormick recommended ligating the branches of this artery as it enters the under part of the gland, thus keeping as far as possible from the nerve. The gland being removed and all bleeding stopped, the wound is closed with silkworm-gut sutures. Pack lightly the lower part of the wound with sterile gauze for drainage. Retain dressings in position by a bandage from the axilla below to the chin and head above firmly stitching it to keep it in place. Should there be enlargement of both sides the other side should not be immediately removed; frequently the remaining lobe atrophies—why, the author does not attempt to explain. After two or three months, if atrophy does not result, the operation may be repeated for the side untouched in the first operation. G.

Subcutaneous Nailing, Exploratory Incision, and the Extended Elbow in Condylod Fractures of the Humerus

J. B. Roberts (*Phila. Med. Jour.*, Vol. II, No. 13, p. 617) formulates the following conclusions: 1. Ankylosis of the elbow-joint after condylod fractures is usually due to imperfect reduction of fragments or incomplete restitution of structural relations. 2. Conservation of the normal angle between the axes of the humerus and the ulna is desirable. 3. Fixation is satisfactorily obtained by nailing the fragments together with long nails driven through the skin. 4. Previous skiagraphs may be needed to aid in determining the point at which the nails should be introduced and the direction in which they are to be driven. 5. Obscure or severe fractures may demand exploratory incision for replacement of fragments and prevention of ankylosis. Such incisions are not employed as often as they should. 6. The best route for this exploratory investigation is through the groove between the biceps and the long supinator. 7. The extended position of the elbow is less likely than right-angled flexion of the joint to be followed by impairment of the normal humero-ulnar angle, which gives the "carrying function" to the upper extremity; and it is therefore the preferable posture in condylod fractures of ordinary severity. 8. Good results as to anatomic conformation and as to mobility can usually be obtained by the adoption of the me-

ures suggested. 9. Osteotomy, with or without nailing, may be judicious treatment for fractures of the condyles united with deformity or followed by ankylosis.

L.

Shall We Operate through the Upper or Lower Canaliculus?

S. C. Ayers (*Med. Times*, Vol. XXVI, No. 7, p. 203) presents some strong arguments in favor of slitting the upper canaliculus, in opposition to the mode of authorities favoring slitting of the lower.

When the upper lid is drawn tense for the purpose of slitting the canaliculus, it makes about an angle of 45 degrees with the tear-duct, so that the probe in entering the tear-sac does not have to be turned more than 45 degrees to enable the operator to push it down into the duct. It does not have to be raised more than half as far as when the operation is made through the lower canal. Another advantage is that there is not nearly so much twisting of the tissues around the probe as in the lower operation, and the probe glides down more smoothly. In addition to this, when it is desirable to notch the mouth of the tear-sac, the knife, as soon as it has slit the canaliculus, can be elevated and pushed directly down into the sac and its neck enlarged before the knife is withdrawn. This will facilitate the passage of the probe very much. The question of the size of the probe used is one of importance, the writer stating that a small probe is liable to pierce the mucous membrane and make a false passage.

L.

Unilateral Castration for Hypertrophied Prostate

In a case reported by Dr. J. R. Care (*Pa. Med. Jour.*, August, 1898), removal of one testicle had an evidently beneficial effect upon the hypertrophied prostate, a marked diminution in the size of the gland, especially of the middle lobe, having resulted. The author believes that in suitable cases this operation is the most promising means of affording relief.

S.

Cerebral Contusion

A. I. Bouffleur (*Phila. Med. Jour.*, Vol. II, No. 18, 1898) concludes:

1. The term "cerebral concussion," as generally employed, is indefinite and unsatisfactory, and inconsistent with modern ideas of pathology and precision.

2. The term "cerebral concussion" should be limited to those phenomena resulting from disturbance of the function of

the brain by trauma, without production of gross mechanical lesions of the brain.

3. The slightest manifestation of concussion is due to disturbance of the fluid equilibrium of the brain and is always of momentary duration and effect.

4. More severe "concussion" produces spasm of the vasomotor system and results in the production of signs and symptoms which are identical with and undistinguishable from those of shock, and which persist until the circulatory equilibrium is restored and not thereafter.

5. The gross mechanical lesions of the brain produced by trauma, with or without fracture of the skull, are identical with those of contusion elsewhere.

6. The clinical history corresponds with what we should naturally expect from a contusion of tissues of such delicate structure and such specialized function with such anatomic relations.

7. The treatment of contusion of the brain is the same as that of contusion elsewhere, with the special demand for the early treatment of complications.

8. The term "cerebral compression" indicates a mechanical disturbance of the circulation of the brain by any lesion that materially increases intracranial tension. S.

Observations on Brain-Anatomy

According to W. C. Krauss (*Phila. Med. Jour.*, Vol. II, No. 14, p. 676) the following rules formulated have been to him a great aid in remembering the gross anatomy of the brain, and may be of assistance and benefit to others. Rule of Two:

1. The nerve-centers are divided into two great divisions: (a) encephalon, (b) myelon.

2. The cerebrum, cerebellum, and myelon are divided into two hemispheres each: (a) right, (b) left.

3. The encephalon is divided into two subdivisions: (a) cerebrum, (b) cerebellum.

4. The encephalon is indented by two great fissures: (a) longitudinal, (b) transverse.

5. Into these two great fissures there dip two folds of dura: (a) falx cerebri, (b) tentorium cerebelli.

6. There are two varieties of brain-matter: (a) white, (b) gray. Rule of Three:

1. There are three layers of membrane surrounding the brain: (a) dura, (b) arachnoid, (c) pia mater.

2. Each hemisphere is indented by three major fissures: (a) Sylvian, (b) Rolandic, or central, (c) parieto-occipital, these serving as boundary-lines between the different lobes.

3. Three lobes, the frontal, temporal, and occipital, on their convex surface, are di-

vided into three convolutions each, superior, middle, and inferior, or 1st, 2d, and 3d.

4. There are three pairs of basal ganglia: (a) striata, (b) thalami, (c) quadrigemina.

5. The hemispheres of the brain are connected by three commissures: (a) anterior, (b) median, (c) posterior.

6. The cerebellum consists of three portions: (a) right and (b) left hemispheres, (c) the vermes.

7. There are three pairs of cerebellar peduncles: (a) superior, (b) middle, (c) inferior.

8. The number of pairs of cranial nerves in the classification of Willis and Sommering can be determined by adding 3 to the number of letters in each name; that of Willis making 9, and that of Sommering making 12 (or the name containing the more letters has the larger number of pairs of nerves, and vice versa).

9. The cortex of the cerebellum is divided into three layers of cells: (a) granular, (b) Purkinje's, (c) molecular layer. Rule of Five:

1. Each hemisphere is divided externally into five lobes, of which four are visible: (a) frontal, (b) parietal, (c) temporal, (d) occipital; the fifth (e) isle of Reil, being invisible. Roughly speaking, the visible lobes correspond to the bones of the cranium; that is, the frontal lobe is underneath the frontal bone, the parietal lobe beneath the parietal bone, etc.

2. The brain contains five ventricles, of which four are visible, the right and left, or 1st and 2d, the 3d and the 4th; the fifth, or invisible, pseudo-ventricle, being between the two layers of the septum lucidum.

3. The cortex of the brain contains 5 distinct layers of ganglion-cells. L.

Gunshot-injuries of the Spine

Theodore F. Prewitt (*Annals of Surgery, Phila.*, 1898, XXVIII, 187-215), as a result of observations from literature as well as from a case of his own, offers the following conclusions:

(1) It is the duty of the surgeon to advise immediate operation in all cases of gunshot-wounds of the spine, provided the wound has involved the posterior or lateral parts of the spine at an accessible part; unless the condition of the patient is such as to indicate clearly that he is hopelessly stricken.

(2) To wait to see whether nature is competent to restore the damage is to wait until irreparable damage has been done in many cases, rapid degenerative changes, meningitis, and myelitis. The delay permits of the continuance of conditions, the removal of which is the purpose of the op-

eration. These considerations apply with greater force, if possible, in gunshot-injuries than others.

(3) The presence of complications due to penetration of the great cavities and injury of the viscera will influence the question of operation, but not necessarily forbid it. T.

Abscesses of the Tongue

Morisot (*Revue hebdomadaire de Laryng.*) concludes from his studies of acute abscesses of the tongue the following:

1. Some cases of suppurative glossitis should be studied separately.

2. They may be divided into two groups: A, circumscribed abscesses; B, suppurative and generalized glossitis of the anterior half.

3. The affection is rare.

4. Causes, traumatism, such as scratches, etc.

5. Idiopathic.

6. Prognosis is favorable.

7. Diagnosis is generally easy, although they may be confounded with cysts or syphilitic gummata.

8. If there is hope of resolution buccal antiseptics is indicated; if pus forms, early opening. W.

The Treatment of Paralysis by Transplantation of Tendon

Before the German Surgical Society, Vulpico (*Med. Press and Circ.*, Vol. CXVII, No. 2, p. 37) stated that he had succeeded in removing the paralysis of clubfoot, by transplantation of the tendon of a functionally active muscle, a plastic dressing being afterward applied. He had operated in this way in twenty-eight cases, the operation being by no means difficult. Gymnastic after-treatment was of great importance. In one case, in the thigh, the writer had transplanted the tendon of the sartorius upon the paralyzed quadriceps. In the upper extremities the procedure is of equal importance. T.

Congenital Pelvic Kidney Obstructing the Parturient Canal

Edwin B. Craig (*Amer. Jour. Surg. and Gyn.*, 1898, XI, 31) says that the statistics of Henry Morris show that congenital misplacement of the kidney within the pelvis, excluding cases of floating kidney, is of frequent occurrence. Of the cases reported in literature it has been possible to find but five in which congenital misplaced kidney caused dystocia. The author's case was seen by him in consultation. A tumor, at first supposed to be an ovarian cyst, was found obstructing the delivery of a living

child, which upon puncture with a trocar and canula was seen to be kidney, and it was removed per vaginam, making the first vaginal nephrectomy ever performed. Dr. Craigin closes the article by offering the following conclusions:

(1) Congenital pelvic kidney may cause dystocia.

(2) As a rule induction of premature labor is the procedure indicated.

(3) In rare cases in which the kidney is in a condition of hydronephrosis, vaginal nephrectomy will be advisable.

(4) So far as the author is aware, no other case of vaginal nephrectomy has yet been reported.

T.

Delayed Union in Fractures of the Leg

Dr. S. Birdsall (*Pa. Med. Jour.*, August, 1898) finds that excluding the usual causes of delayed union of fractured bones, in fractures of the leg, especially of the tibia, union is frequently protracted; instead of from 6 to 10 weeks, 12 to 16, and sometimes longer, are required; the reasons for this exceptional length of time are probably (1) that at least one-third of the surface of the tibia has no muscular covering and (2) the distance of the injury from the center of circulation.

S.

Intracranial Abscess in Relation to Ear-disease

Dr. J. F. McKernon (*Archiv. of Otol.*, Vol. XXVII, No. 3, 1898) believes that the indications justifying or calling for an exploration of the cranial cavity where an abscess is suspected in relation to ear-diseases are: 1. That a chronic otorrhea is, or has been, present; 2. Persistent headache, general and localized; 3. Restlessness and irritability of temper; 4. Tenderness on percussion of the affected side; 5. Nausea, vomiting and vertigo; 6. An almost persistently low temperature. 7. A slow pulse, late stupor. Optic neuritis may or may not be present; when present, it may aid us very materially in reaching a diagnosis, as may also aphasia and motor disturbances. To the doctor the use of the chisel, gouge, and rongeur seems a more rapid method of entering the skull than the use of the trephine.

G.

Enterorrhaphy without Buttons, Plates, or Rings

Dr. John I. Skelly (*Annals of Surgery, Phila.*, 1898, XXVIII, 554) describes a method of uniting the ends of the intestine after a resection as follows:

A cuff half an inch wide is turned back

on the distal end and the mucous membrane is thoroughly removed. From the proximal end the serous coat is removed for one-half an inch. This operation is greatly facilitated by introducing some solid substance into the end of the intestine, as a glass vaginal speculum or canal-dilator.

The mucous and serous coats removed, a fine catgut-suture with a straight needle on each end is passed through the muscular coat of the proximal end. The needles are introduced about one-quarter inch apart, and near the cut end of the gut. They are then passed through the exposed muscular tissue of the distal end near the line of denudation, and brought out beyond the edge of cuff without penetrating the serous coat. These sutures are continued clear around the gut. When they have all been placed the distal cuff is turned back over the proximal end, and the sutures are tied. The serous coats of the proximal and distal ends are then united by either interrupted or continuous sutures.

T.

Some Forms of Congenital Cataract

Concerning shrunken congenital cataracts, D. Gunn (*Ophthal. Review*, Vol. XVII, No. 199) inclines to the theory that they are due to interference with the nutrition of a growing lens by rare inflammatory process (such as iritis or cyclitis) resulting in degenerative changes in the direction of softening, and more or less complete absorption. Inherited syphilis is probably the common if not the only cause of intra-uterine iritis. In eight cases detailed by the author there was little suggesting rickets except in one case. The connection of lamellar cataract with rickets is by no means established. Children born blind are in some cases mentally unsound; possibly therefore structural defect of the brain is a frequent association of structural defect of the eyes; the combination of fits with low intelligence would indicate this, unless we consider the former the cause of the latter.

S.

Paralysis of the Sphincter in the Clamp-and-Cautery Operation for Hemorrhoids—Muscles of the Pelvic Floor

Dr. J. H. Landis (*Louisville Jour. Med. and Surg.*, July, 1898), believing that pain following operation is due to stretching the sphincters, advises against that procedure. He introduces a Pratt bivalve, separating the blades sufficiently to bring a hemorrhoid into view. It is seized with hemostatic forceps and the spiculum removed. The hemorrhoid is then brought outside the bowel, the clamp fastened, and

the cautery applied. This process is repeated on each hemorrhoid and unless the skin has been wounded no dressing is necessary. Bowels are moved every day after the operation by a simple cathartic.

The functions of the muscles of the pelvic floor are to support the pelvic contents and prevent prolapsus of rectum, uterus, and bladder; to oppose the action of diaphragm and abdominal muscles, except during expulsive efforts; to elevate these organs to their proper position after expulsion, and to prevent the expulsion of gases or feces at the involuntary action of the circular muscular fibers of the rectum. G.

Report on One Hundred and Nine Hysterectomies for Cancer of the Uterus

Emory Lanphear (*Amer. Jour. Surg. and Gyn.*, 1898, XI, 28) gives the following conclusions based on the observation of 109 hysterectomies:

Radical operation is indicated as follows:

1. As soon as a diagnosis of carcinoma of the cervix is made—provided the disease is not too far advanced.
2. Whenever there is a fungus growth upon the cervix, which persists in spite of treatment.
3. When there are one or more nodules in the mucous membrane of the cervix which soon ulcerate and destroy the mucosa.
4. When there is an infiltrate in or beneath the cervical mucous membrane, just within the os, which soon breaks down and destroys the cervix by erosion.
5. When there is evidence of the existence of cancer of the parenchyma of the uterus.
6. Whenever a glandular endometritis becomes inveterate.
7. In all cases where there is even a strong suspicion of malignant disease (hysterectomy).

Operation is not indicated:

1. Whenever the disease is so far advanced that the uterus is fixed in the pelvis.
2. Whenever it is certain there is extensive cancerous infiltration of the broad ligament.
3. When cancer involves the bladder.
4. When the cancerous cachexia has become pronounced.
5. When the patient is too weak from repeated exhausting hemorrhages.
6. Whenever the diagnosis of sarcoma of the uterus is quite certain.

Palliative operations should be advised as follows:

1. When there is marked sepsis.
2. When there is excessive hemorrhage.
3. When pain is severe. T.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

Climacteric Insanity

J. B. Hellier (*Med. Chron.*, Vol. IX, No. 3, p. 161) reports a case furnishing an interesting study of the genesis of insanity in a patient suffering from disorder of the uterine function and of the pathological relations of the menopause. Patient was a chronic invalid, anemia and weakness supervening upon severe menorrhagia for nine years. No obvious pelvic disease could be found upon bimanual examination, nor any disease in any other part. The causes which conspired to induce insanity in the case appeared to be: 1. Marked and prolonged anemia, the anemia being a potent cause of mental debility. 2. Nine years of chronic invalidism and sofa-life. 3. The approach of the menopause. 4. Spontaneous occurrence of suppuration in one of the cervical glands, evidence of an unsatisfactory condition of the general health. 5. Excitement connected with the performance of an operation for the latter in a neurotic subject. 6. The effect of anesthesia as a determining cause of mental attacks. Rapid improvement as regards her physical and mental condition followed upon the onset of the menopause. L.

Enucleation of Uterine Fibroids

W. Alexander, Liverpool (*Brit. Gyn. Jour.*, Part LIII, p. 47), describes a method of operation for enucleation of uterine fibroids, adopted in eleven cases, some of a very grave character. The incision in the abdomen is made of sufficient length to allow the tumor to come through the opening thus made. An assistant with two fingers in the vagina pushes the uterine tumor into the wound from below, when the fibroids are exposed to view. Warm, dry, aseptic sponges are then placed round the uterus, completely shutting off the rest of the abdominal cavity from the field of operation. A vertical incision is then made into the wall of the uterus covering the tumor until the white surface of the fibroid can be seen. By means of the finger and blunt dissector the tumor is readily enucleated and any bleeding points caught by forceps, and afterward tied with catgut. A sponge is then stuffed into the cavity and left there until a strip of iodoform gauze of the desired length is produced, which is then packed into the cavity, the end of the single strip emerging from the lower end of the opening into the uterus.

The wound in the uterine wall is next closed with numerous superficial and deep catgut sutures, except where the piece of gauze emerged below. A single silkworm-gut suture is passed through the uterus at the upper end of the incision in its wall, and each end of it, through the whole thickness of the abdominal wall at the upper end of the laparotomy-wound, and tied externally, so as to fix the fundus uteri temporarily to the abdominal wall. The laparotomy-wound is closed by buried sutures in the peritoneal layer and deep silkworm-gut sutures through all the layers, except at the lower end where the strip of gauze emerges. This strip of gauze is said by the writer to drain the cavity in the uterus as well as the abdominal cavity at the same time. At the end of forty-eight hours about a foot of the gauze is gently drawn out, the same amount being drawn out each day thereafter until it is all removed. Eleven cases are recorded by the writer, with one death, the latter being due to an accidental complication. The method applies mainly to multiple fibroids. The low mortality and the non-mutilation of the patient give this operation a tremendous advantage over the deprivative operations, since even women near the menopause do not like to be deprived of their organs. Mere number of tumors, nor the size of tumors, is no contraindication to the operation. Their removal does not present any difficulties, as the uterine walls can be ransacked quite easily. L.

Pelvic Phlebitis

Dr. J. Sexton (*Md. Med. Jour.*, Aug., 1898) reports this interesting case: Operation on a woman aged 25. There were dense adhesions and unusual vascularity of a right ovarian tumor and pedicle, with much weakness of the walls of the veins. Buried in deep adhesions along the under side of the more solid portion of the mass was the vermiform appendix, which, with the tumor, was removed with much loss of blood from the easily tearing veins and consequent shock. Then, there being a cyst of the left ovary, the left adnexa were also removed. Recovery was rapid until thirty-six hours after operation, when the temperature rose to about 105°; at first there were no other marked symptoms, but presently edema of the vulva was observed; then the superficial veins were found distended and tender. Then in the cul-de-sac, to the left of the cervix, against the bladder-wall, could be felt innumerable distended veins, dense and hard, feeling like an inflamed varicocele; they were very painful upon touch. Then a tender point was found over the region of the left sacro-sciatic

notch, and the left buttock was also edematous. About seventy-five hours after operation there was a very copious watery discharge from the vagina, and the temperature fell promptly to 99.4°. Some days later the femoral vein became inflamed, and from this time on the case pursued the ordinary course of pelvic phlebitis. During the fourth week an embolus detached itself, was floated off to the lung, giving in its passage through the right heart most serious symptoms, and a resulting gangrenous impact was coughed up. The patient recovered. This paper contains an interesting account of this disease, which hardly receives in the text-books the consideration to which it is entitled in the author's opinion. The author believes the initial infection to have been caused by septic catgut. G.

Calcium Carbide in Cancer of the Cervix Uteri.

Leslie (*Kansas Med. Jour.*, 1898, p. 383) reports three cases: Carbide of calcium is a chemical substance from which acetylene gas is now prepared. In contact with moisture it rapidly disintegrates, gas being formed at once. This gas acts both as a caustic and as an anesthetic, and its application is not very painful. The cervix is thoroughly curetted under an anesthetic and the tissues dried as well as possible with absorbent cotton. A piece of calcium carbide is then placed in the cavity made by curetting, and packed firmly as quickly as possible with iodoform gauze, to prevent the escape of gas. The packing should remain two or three days, then be removed, and the parts thoroughly cleansed; the treatment is then repeated and continued until all diseased tissue is destroyed. (This treatment is used considerably in France, and is warmly advocated in this country by Prof. Etheridge, of Chicago.) The first case was that of a woman of 52, who had been treated for one year for disease of the cervix and then abandoned as incurable. The author found the patient weak, anemic, unable to leave her bed, vomiting frequently; temperature, 101°; pulse, 110. On examination, the whole cervix was found an indurated and ulcerated mass, which bled freely at the least touch. There was a very offensive discharge. Patient suffered great pain and could sleep but little. It was evident that without relief she could live but a short time. She was treated as above described for two months, when all the carcinoma as far as could be seen was removed. The patient began to improve rapidly after the first week; appetite returned, food was well borne, she slept well, temperature and pulse became normal; of-

fensive discharge and hemorrhage stopped, and cervix was transformed into a simple instead of malignant ulcer. Whether a permanent cure has been effected remains to be seen, but the author regards the case as hopeful. In addition to the local treatment, this patient was given protonuclein during the whole period of treatment. Case II was similar to Case I, but less severe general condition. The improvement in local and general symptoms was marked. Case III was a very severe one: the malignant growth involved the whole anterior portion of the vagina, the whole of the cervix and right broad ligament, filling the vaginal cavity half-full. Calcium carbide was tried, but the tissues were so sensitive that patient could not stand the packing and the treatment had to be abandoned. Pyoktanin was then tried locally with protonuclein internally, and this treatment seemed to hold the growth in check. General health improved and hemorrhage from cervix stopped. R.

Subperitoneal Emphysema Following Uterine Rupture

K. H. Dischler (*Arch. f. Gynec.*, Vol. LVI, pt. 1, 1898) comes to the following conclusions with reference to this affection: Anterior uterine subperitoneal emphysema is a tangible sign of uterine rupture. It indicates a grave danger for the pregnant woman and the child, as it affords an exceptionally rapid means of infection, which would result in a peritonitis. Amputation following laparotomy, according to Porro, is immediately indicated, extraperitoneal if possible. J.

Cyclical Stomatitis as a Menstrual Phenomenon

B. S. Davis (*Med. Times*, Vol. XXVI, No. 5, p. 141) reports a case in which attacks of ulcerative stomatitis were coincident with menstruation, the soreness of the mouth usually manifesting itself from five to seven days before the menses appeared. The attacks reached their acme at about the close of menstruation, when the oral cavity was studded with myriads of small, dirty ulcers. Healing began at the cessation of the flow, the integrity of the mucous membrane not being restored until a week before the beginning of the next cycle. Her inability to masticate was of little moment, since her loss of appetite was complete at these times. There had been nothing about her alvine discharges to arouse suspicion of gastric or intestinal lesions. The patient, aged 35 years, married, had given birth to four children, the stomatitis dating since

her last pregnancy, three years ago. Pelvic pain was but slight. There was a constant falling off in weight and strength. Treatment offered no hope of relief. To the writer the problem seemed a clear one, reasoning that if menstruation were stopped the complication would of necessity cease. Removal of the ovaries was therefore advised and performed, since which time she has steadily gained in strength and health and the stomatitis disappeared. L.

Acute Strangulation of Prolapsed Uterus and Vagina

Baldy and Bryea (*Med. Chron.*, Feb., 1898) report each a case of this accident. Baldy's patient was 70 years old and had suffered from complete prolapse for ten years, which lately had given rise to considerable trouble, owing to the difficulty in keeping it up. Nothing was noted on examination beyond the prolapse and some ulceration. Ten days after examination the patient developed serious symptoms, with fever, rapid pulse, and vomiting. The prolapsed mass was found, on examination, to have increased enormously in size, and to present a blackish appearance, resembling a strangulated hernia. After considerable difficulty reduction was effected, with rapid cessation of the severe symptoms. Under treatment the parts rapidly regained their normal appearance, and at the end of a week abdominal section was performed, with the object of amputating the uterus, but owing to the presence of a tumor in the posterior wall, total hysterectomy was performed, followed by anterior and posterior colporrhaphy. The patient made a good recovery.

The second case, reported by Bryea, was more complicated from the fact that septic infection had already taken place, gravely affecting the prognosis. The patient was 22 years of age, and had borne four children. Complete prolapse of the uterus and vagina had existed for four years, and had lately become irreducible. The acute symptoms when she was first seen by the writer had lasted a week, and commenced with a rigor, which was followed by fever, rapid pulse, and abdominal pain. Three days later persistent vomiting with constipation set in. She was found to have a temperature of 101; pulse, 120; abdominal tenderness, but no distension; the urine was normal. A swelling, the size of the fetal head, protruded from the vulva, composed of the prolapsed uterus, vagina, and bladder. The mass could not be reduced. The condition became worse, and three days later, as the mass had a gangrenous appearance—the signs of general septicemia

were present—it was decided to remove the uterus, which was done. At the operation the coils of small intestine were noticed to be reddened and covered with lymph, showing the existence of peritonitis. Multiple abscesses were found on the uterus, but no abnormality of the appendage. The patient only survived the operation forty-eight hours. S.

The Influence of Disorders of the Digestive Organs on the Developing Mind and Psyche

The brain of a child 2 years old has doubled in weight; the small intestine adds four feet to its length during the first two months. From these and other facts Louis Burckhardt (*Indiana Med. Jour.*, June, 1898) concludes that there is an etiological relation between the nervous system and the digestive tract. The brain may be affected through the absorption by the blood of biliverdin, bilirubin, and the ptomaines, and other abnormal products resulting from morbid changes in the intestines. Severe anemia and dryness of the tissues following diarrhea may influence the development of the nerve-cells. Constipation may be the fundamental cause of neurasthenia, hysteria, or tetany; or in later girlhood the development of the nervous system may be directly influenced by pressure of impacted feces upon the ganglion of Franckenhauer. Constipation, the author considers a greater evil than diarrhea, and does not consider difficult teething and intestinal worms important etiological factors. G.

Marmorek's Serum in Puerperal Sepsis

Queirel (*Annales de Gynecol.*, No. 5, 1898) has employed Marmorek's antistreptococcic serum in seventeen cases of puerperal septic infection, fourteen cases of puerperal septicemia, and three cases of puerperal erysipelas, and has come to the conclusion that in it we possess a powerful weapon against those diseases. But it is necessary to keep up the injections boldly until the temperature has been lowered. Of the seventeen cases the remedy proved ineffective only in two, and in those two the author presupposes a mixed infection—not only with the streptococci, but also with other microbes. R.

Version or Expectant Treatment in Narrow Pelvis?

In a thesis by Petersburg University 1897, Petersburg University puts the question: Whether is it advisable to the mother and child to attempt the delivery in a narrow pelvis of the first or second child?—the performing of

version or the expectant plan? To answer this question he compares the results of fifty-nine cases where version was performed with 215 cases of similar character where the expectant plan was followed, and the comparison is very far from being in favor of version. As far as the mother is concerned, the result is the same in both methods, but for the child the expectant method is more favorable. It is in the most difficult cases, i. e., where there was the greatest difference between the pelvis and the size of the child's head that the advantages of the expectant method were most apparent. The reason of it is that the after-coming head is much less capable of molding itself to the shape of the pelvis. The author concludes his dissertation by saying that a narrow pelvis by itself ought never to serve as an indication for version. R.

Pathology and Treatment of Dysmenorrhea Associated with Antelexion of the Uterus

F. H. Davenport (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 22, p. 514) gives what he believes to be the cause of the symptoms which occur in connection with dysmenorrhea associated with antelexion of the uterus, describing at the same time the treatment which he has found most efficacious. Antelexion is considered as a deformity and not a displacement, being the persistence of a type which seems to be normal in fetal life. At that time, owing to the disproportionate size of the cervix and the crowding of the organs in the small pelvis, the body becomes bent forward just above the internal os. As the child develops in the years before puberty the increased room in the pelvis should, and usually does, admit of a straightening out of the organ, so that it assumes its normal position of anteversion. If, however, there be a lack of proper development of the whole body from poor food, want of exercise, or constitutional delicacy, the uterus shares in this faulty condition, and we have a persistence of the fetal type, antelexion. The uterus is usually small and poorly developed. A fact observed in these cases is the increased sensitiveness to the passage of the sound, confined to the region of the os internum. As regards the dysmenorrhea, it shows itself at the first menstrual epoch and persists with each recurring month, becoming gradually more pronounced and proportionately harder to bear. Of second importance only to the dysmenorrhea is sterility, which usually accompanies it in the condition referred to. Though there is a distinct and real narrowing of the canal at the internal os, it is, in the writer's opinion,

never sufficient in itself to cause any real obstruction to the passage of the menstrual blood. Furthermore, when one reflects through how narrow and tortuous a canal fluid will find its way, and remember that at the time of greatest pain the flow is scanty, it must be evident that pure mechanical obstruction cannot play any rôle. Two conditions are, however, responsible for the pain, one being the swelling of the uterine mucosa, which accompanies it; the other the condition of abnormal sensitiveness at the internal os. The tissues at the os internum are apt to be more rigid than normal, and the nerves in an extremely hyperesthetic state; the increased congestion accompanying the onset of menstruation and the tension of the tissues generally irritate the nerves and aggravate the pain. After a varying time, from twelve to twenty-four hours, relaxation occurs, the flow is more profuse, and the pain has largely ceased. The writer does not consider endometritis as an important factor in the pathology of this condition, as during the intermenstrual period local symptoms are, in the majority of instances, absent. Regarding treatment, it should be directed to the solution of two problems: first, to enlarge and straighten the canal; second, to diminish the sensitiveness at the internal os. It is hopeless to expect that the uterus can ever be made normal and that the flexion can be absolutely cured; the most that can be hoped for being some straightening of the canal. The writer refers to a method of treatment which has as its essential feature the use of a solid hard-rubber stem, having a flange at the lower end perforated by four equidistant holes, corresponding to the interior, posterior, and later aspects, and having a slight anterior curve. After thorough, prolonged, moderate dilatation, followed by curettage and irrigation, the stem is pushed in place in the cervical canal and attached to the cervix by four silver-wire sutures. With full dilatation the uterus drains by the side of the plug, and if there is a temporary failure of the secretions to pass off it is usually overcome by the contractions of the uterus in a few hours. L.

The Relation of Hemorrhage of the Stomach to Menstruation

In order to make a correct diagnosis regarding hemorrhage of the stomach it is, according to C. D. Aaron (*Phys. and Surg.*, Vol. XX, No. 9, p. 399), important to ascertain all etiological factors involved in a given case. Reference is made especially to a class of cases of active hyperemia, with consequent hemorrhage from the stomach, which is coincident with menstruation, the

hemorrhage taking place periodically. This condition occurs more often than formerly supposed. Hematemesis, when the menses have ceased, is mostly found in chlorotic girls, but also occurs in others. In all those conditions which permanently or temporarily produce amenorrhea hemorrhage frequently occurs. It occurs usually a few days before the regular menstrual flow and again at the menstrual epoch. There is also found at this time a decreased digestive ability of the gastric juice, the patients suffering from stomach-symptoms at such a time. Though vomiting be not present, hemorrhage from the stomach should be suspected. The stomach-tube offers an excellent means for diagnosis. L.

Treatment of Uterine Fibroids

F. H. Martin (*N. American Jour. Diag. and Practice*, Aug., 1898) states: 1. The only sure cure for fibroids is the total removal of the uterus; even then, in 5 per cent. of the cases in expert hands death results from the operation. 2. Conservative methods should be pushed to their legitimate possibilities: i. e., the use of medicine, of electricity, and vaginal ligation of the broad ligament. 3. Fibroids would rarely destroy life if left only to conservative treatment. 4. Electricity should be employed as a remedy for fibroids after the fortieth or forty-fifth year when the tumor is interstitial; it should be employed in all inoperable cases. 5. Vaginal ligation of the broad ligament may be employed as a conservative measure in all bleeding fibroids of whatever age, especially in the few years preceding the menopause. It should be employed in all cases of desperate hemorrhage when life is threatened. 6. Removal of appendages should only be resorted to after the abdomen has been opened for hysterectomy and the latter is found inadmissible. G.

Vaginal Examinations and Vaginal Douches in Normal Labor

George P. Shears (*Med. Rec.*, Sept. 17, 1898, p. 405) sums up as follows:

The common custom of making frequent vaginal examinations during the whole course of labor is unscientific and unsafe, and it should be the aim of the conscientious obstetrician so to familiarize himself with all extravaginal methods of diagnosis as to reduce the necessity for vaginal examinations to a minimum.

All intravaginal manipulations are especially objectionable after delivery.

When the vaginal secretions are normal ante-partum douches are unnecessary and harmful. Upon this point the resea-

Leopold and Goldberg, as well as those of Fischel and others, seem to be conclusive.

In normal cases the single post-partum douche is unnecessary and therefore objectionable.

The routine use of douches during the normal puerperium is contraindicated. Lusk says: "In hospital practice they have invariably increased the morbidity and the mortality-rate."

It is, of course, to be understood that these conclusions apply only to normal cases, and in no way forbid the most searching examination or thorough disinfection when indicated. Should a douche be necessary, then only a glass tube perforated at the sides should be used. The solution should be as hot as can be comfortably borne, but should not be too hot. As sometimes given, it causes unnecessary pain, and may even, by constricting if not actually cauterizing the superficial vessels, interfere with drainage, retard the necessary post-partum changes, and thus actually aid in producing sepsis. The tube should be managed without introducing the fingers. To distend the ostium vaginæ and carefully search for clots is to invite sepsis. Whether the air of the lying-in room may carry the germs of puerperal infection is still perhaps sub judice, but there can be no doubt that freely to admit air to the vagina after delivery is the surest way to cause decomposition of coagula, previously harmless. R.

Malignant Disease of the Uterus

Concerning uterine cancer, Dr. L. Frank (*Louisville Jour. Surg. and Med.*, July, 1898) states: It may occur at any time after beginning of menses. The early symptoms are often obscure. The least irregularity during the climacteric should arouse our suspicions. Microscopic examination should be made in suspicious cases. Early operation is the only hope of cure. Extirpation after the disease is very evident, after appearance of cachexia, is harmful rather than beneficial; there only palliative treatment is indicated. Women should consult the physician for an irregularity in the menstrual flow. A very early complication is lymphatic involvement. Pain may be the first and most prominent symptom. G.

Discussion on the Treatment of Puerperal Eclampsia

Rev. de Thérap. méd.-chirurg. (No. 14, July 15, 1898) gives Blondel's epitome from *Soc. Lancis. deg. Ospedal. di Roma Archiv. ital. di Ginecolog.* (1898, No. 1, p. 70). F. La Torre recalls the fact that at the Congress of Geneva, in 1896, accoucheurs were divided into two camps: some were for immediate intervention; others for the expect-

ant combined with medical treatment. He narrates two cases treated in the latter way. One was taken with short attacks at intervals after the eighth month, accompanied by edema and albuminuria, which ended in accouchement at term. The other was attacked three days after delivery with general convulsions, anasarca, and slight albuminuria. If patient does not urgently need operative intervention, commence medical treatment with large doses of morphine (author has given $11\frac{1}{2}$ grn. in two days); chloral (3 i to 3 iss a day); baths, sudorifics, drastic purges, etc. Interfere by evacuating the uterus only when the above means produce no result and the albuminuria increases. Hasten the interference when convulsions succeed each other rapidly. Krause's sound, Barnes' bags, Tarnier's dilator, and Dührsen's forced dilatation are in order.

Rocchi observed that albuminuria was not always proportionate to the gravity of the convulsions. He had seen a case with Bastionelli when albuminuria from the third month attained the degree of 11 per cent. without preventing carrying to term and delivery without convulsions. If we could a priori determine the gravity and imminence of the danger we ought to bring on delivery at the first manifestation of convulsions. We should not forget that albuminuria in the pregnant much prolonged leaves lesions in the kidneys.

Archangelli thinks the quantity of albumin and the specific gravity of the urine are too often neglected factors in the prognosis. When this proportion is high the prognosis is most favorable.

Dutto attaches great value to the administration of thyroid tablets where medical treatment is possible, for the reason that it has given good results in all diseases depending on an accumulation of nitrogenous substances in the blood.

Rocchi has used to advantage *Veratrum viride* (10 to 20 drops internally, or 5 drops of fluid extract hypodermically). It increases cardiac contraction, raises the blood-pressure, increases elimination of urine, and, with it, the poisons in the blood of albuminurics. He uses morphine and bromides as sedatives, reserving chloral or chloroform for convulsions. These latter, irritating the liver and kidneys, should be employed only in urgent cases, and then per rectum.

F. La Torre insists that the medical treatment can bring about a cure in the greatest number of cases without forced labor being necessitated. On the other hand, gravid albuminuria may be so grave in the direction of renal changes as to contraindicate opium and chloroform. H.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Phesin and Cosaprin Therapeutically

O. Lentz and B. Tendlau report (*Berl. klin. Wochenschr.*, XXXV, p. 881), having employed phesin and cosaprin in fifty cases, comprising a number of cases of phthisis, headache, articular rheumatism, recurrent endocarditis, cystitis, lymphoma, etc., in regard to antipyretic and analgesic properties of the remedies. These latter were administered in wafers, although the slightly caustic taste of the phesin, and the acidulous taste of cosaprin, were not specially objected to. Subcutaneously the remedies caused such intense pain as to preclude that form of medication. The results in general were found by the authors to be very unsatisfactory, the antipyretic effect being either very slight, or absent altogether. Relief was afforded in a few cases of headache, but even in these the results were not as good or as permanent as those obtained by other analgesics. F.

Digitalis in Pneumonia and Grip

Gingeot and Deguy have been carefully studying the action of this drug in the diseases named, formulating their results in No. 3 of the *Revue de Médecine*. Doses of 0.001 gme. (1-60 grn.) given without other medication for from five to six days had very beneficial effects, the lowering of the fever-curve being especially marked. A differential diagnosis may also be effected by this means, as in cases of typhus and acute miliary tuberculosis no abatement of the fever results. The use of large doses is recommended, though the giving of more than 0.012 gme. (1-5 grn.) a week is not advisable. In influenza the treatment may advantageously be supplemented by the employment of some intestinal antiseptic, and in asthenia nervosa by the injection of camphor-oil. J.

Danger from Injections of Nephrine in the Pre-uremic Period of Bright's Disease

Bull. méd. (No. 81, Oct. 9, 1898, p. 927) condenses the observations of M. Layral, who attended an alcoholic, 35 years of age, with advanced Bright's disease; total albumin 15 gme. a day (3iv); "bruit de galop" (galloping). In this condition a Lyon professor ordered injections of nephrine, commencing with 2 cc. (mxxx) along with a milk diet (absolute). On the third day the urine was

lighter, the "bruit de galop" increased and there was some difficulty in breathing. After the fourth injection (fourth day) some pulmonary edema existed at both bases. The urine was still less in quantity, the swelling of the legs greater. After the fifth injection the urine was completely suppressed, the pulmonary edema was general, tachycardia and arrhythmia were marked, the pulse was feeble at 160, and there was slight delirium. For the next two days the urine was suppressed, respiration was labored, and pulse imperceptible. Next day death ensued. That is complete suppression of urine ensued in five days after commencing the opotherapy, although 1300 gme. (3 xl) had been passed just previously.

The writer cites another case of M. Cénas in which the general state appeared slightly improved by a first course of ten injections of 2 cc. of nephrine, but which, after five injections in a second course of the treatment, showed grave symptoms, hematuria, dyspnea, anuria, requiring suspension of treatment.

The writer questions the propriety of using for a diseased kidney a substance of which the chemical constitution and physiological properties are still ill-defined and which contains toxins capable of acting on the renal epithelium already diseased.

So long as it has not been better established by experiment that extracts of the kidney can supply or re-establish renal function, it would be prudent before all to consider the kidney as an excretory organ without taking account of its internal secretion and to abstain from injections of nephrine as well as from vesicatory applications known to irritate renal epithelium. Renal opotherapy has given the most unpromising results, and it would seem a priori that it should be so. H.

Therapeutic Salt-Solution

Solis-Cohen (*Philadelphia Polyclinic*, Vol. II, No. 42) objects to the use of the terms "normal salt-solution" and "physiologic salt-solution," and thinks therapeutic salt-solution more appropriate. It is impossible to furnish a solution which corresponds accurately with blood-serum. The formula suggested by Drs. Locke and Hare he has found useful:

Water	1 liter
Calcium Chloride.....	.25 gme.
Potassium Chloride.....	0.10 gme.
Sodium Chloride	9.00 gme.

Or in an emergency a dram of sodium chloride to a pint of water. The apparatus used must be sterilized and the water boiled and filtered or allowed to stand until sediment has formed. The temperature of the solu-

tion used should be 38° C. or 100° F. Of the methods of introduction, venous infusion, hypodermoclysis, enteroclysis, and peritoneal infusion, hypodermoclysis and venous infusion are the most efficacious; the former is to be preferred for those who are called upon to perform the operation infrequently, as the venous infusion requires some experience. Both of these methods he has used with good effect in uremia, combined with blood-letting, also in coma of delirium tremens. In a case of acute nephritis with hematuria, a complication of measles and bronchopneumonia, he used the therapeutic salt-solution by hypodermoclysis, and attributes the recovery to its use. He also mentions a case of pneumonia and diabetes in which he used the therapeutic salt-solution:

Sodium Chloride	40 grn.
Sodium Carbonate	20 grn.
Water	1 pint

The urinary symptoms were improved and threatened coma averted. U.

Serum in Syphilis

Tarnosky and S. Jakowlur (*Arch. f. Derm. u. Syph.*, No. 11) report the results of their experience upon the treatment of syphilis with injections of serum from mercurialized horses. They found that it had no effect upon the course of the primary lesion, nor the secondary, four-fifths of the patients injected suffered from fever, purpuric eruptions, arthral and muscular pains, albuminuria, and swelling of the glands, and in some loss of body-weight.

Microscopic examinations of the blood showed the diminution of red corpuscles with a marked decrease of hemoglobin.

Their conclusions are that this method of treatment is injurious and should be strenuously avoided. W.

Pichi in Chronic Cystitis

Dr. Whittaker (*N. Y. Med. Jour.*, LXVIII, p. 717) read a paper before the Mississippi Valley Medical Association on pichi, a shrub growing in Chili. He said that the annoying symptoms of chronic cystitis with enlarged prostate yielded to the action of pichi, as was illustrated by the citation of a case. Cystitis complicating specific urethral infection, involving the prostatic urethra, was a combination which, under favorable circumstances, did not readily respond to treatment, and yet under the influence of this drug the conditions became more tolerable. This remedy was indicated in all the various forms of diseases of the liver. In gall-stones, pichi had proved a valuable remedy in assisting the secretion of bile and theoretically aiding

the discharge of the stones. Uric-acid formations rapidly disappeared from the urine under the corrective influence of this remedy, and the general condition of the patient improved.

Resorcin and Ichthyol in Senile Pruritus

In addition to careful attention to the general health and the avoidance of coffee and alcoholic beverages, the use of the following ointment is said to afford relief:

Resorcin	15 grn.
Ichthyol	30 grn.
Adeps Lanæ.....	1 oz.

Simple Method of Curing Aphonia

Albert Abrams states (*Therap. Gaz.*, XXII, p. 726) that for the relief of aphonia and dysphonia of laryngitis no method equals the following: First mark approximately with a pencil on either side of the neck the point in the thyrohyoid membrane where the internal laryngeal branch of the superior laryngeal, the nerve of sensation to the larynx, passes into the latter organ. Over the points marked with the pencil freeze with chloride of methyl or a spray of rhigolene. Freezing must be thorough. The relief in most instances is almost instantaneous, and phonation, which was before difficult or painful, can be performed with perfect freedom. The relief thus afforded is of signal advantage to many professionals. In some instances the relief is of short duration only, in which cases freezing must be done again or several times.

The author has used this relatively painless method for at least six years, and the results in most instances have been phenomenal. This same method may be employed with advantage in neuroses of the larynx, like laryngismus stridulus, spastic aphonia, and in the laryngeal crisis of tabes dorsalis. The use of any therapeutic agent based on empiricism alone will yield clinical results wholly at variance with strict scientific inquiry. The following hypotheses are presented as a cause for congelation:

(1) Freezing may act as a counter-irritant and the results achieved may be due to local or reflex action. (2) Freezing may act by producing physical changes in the underlying structures. (3) It may act as a shock.

The first hypothesis may be contravened in part on the assumption that freezing, unlike counter-irritation, is immediate in its action, of greater potency, and followed by slighter reaction. It is known, however, that the application of cold to the superficies of the body induces through the automatism of reflex action contraction of the arterioles, especially in parts subject to inflammation,

thus materially inhibiting the process of inflammation. The degree of cold secured by the usual methods of freezing is neither of sufficient intensity nor duration to warrant such a postulate. The reduction of temperature, determined by experiment, is never sufficiently great to firmly sustain the first hypothesis.

The second hypothesis may be disposed of by briefly citing the results of certain experiments. If the skin over the large nerves of rabbits is frozen daily and the nerves afterwards examined, no degenerative changes in the latter can be demonstrated, and it is only after freezing is carried to an inordinate degree and repetition, unlike its clinical application, that any degenerative nerve-changes can be demonstrated; and this degeneration involves not only the nerves, but likewise the superimposed tissues.

The author is inclined to accept the final hypothesis as the most probable, viz., that freezing acts as a shock, inhibiting the nerve-functions for a variable period. While conductivity is an expression of physiological nerve-activity, pain or disturbed function is an expression of pathological nerve-activity. The inhibition of the activity of a pathological nerve expresses the ideal attainment of therapeutics. This is secured remotely by analgesic or directly by local medication. The latter is the more rational method and can be attained by freezing, which, acting like a shock, inhibits the functions of the nerve, thereby putting it in a condition of rest.

Efficiency of Peptic Digestion

Wilhelm Croner (*Virchow's Archives*, No. 150, p. 260) finds that the amount of pepsin should be over 1 per cent. and of HCl from .05 to 1 per cent. to give best proportions.

H.

Subcutaneous Injections of Saline Solutions in Infantile Bronchopneumonia

In *Sem. méd.* (No. 50, Oct. 5, 1898) C. P. Lemaire is credited with having collected eleven cases of infantile bronchopneumonia successfully treated by hematocatharsis, in all of which he employed a 7-per-cent. saline solution at 37° C. (98.5° F.). He injected daily under the skin of the abdomen or in the thigh under strict antisepsis 200 cc. at one time in children 3 years and over. Under that age the injections were 60 cc. three times a day. The blood-pressure is raised, diuresis is increased, the whole organism, notably the nervous system, is powerfully stimulated, oxidation is increased, and symptoms are improved, where

usual means fail. The contraindications are weak heart, excessive obesity, and pulmonary tuberculosis, in the last of which the serum reawakens inflammation. They should be given as early as possible in the case, and other indications ought to be met as well, such as warm baths, stimulants, etc. H.

Carbonic-Acid Gas for Producing Local Anesthesia

James B. Bullitt (*North Carol. Med. Jour.*) proposes the employment of liquefied carbonic-acid gas in the production of local anesthesia. His apparatus consists of a drum capable of being recharged, to the outlet of which a hypodermic needle is attached by means of a pipe. The gas when liberated produces an anesthetic spot at the point of contact. He believes that small portable drums could be readily constructed, and that the gas, for the purpose indicated, has the advantage of comparative cheapness. F.

Creosote not a Specific

This drug has become so inseparably connected in history, in clinical experience, and in present-day teachings, with the disease of pulmonary tuberculosis, that its acceptance as a specific becomes a natural consequence. According to the *Jour. of the Am. Med. Assoc.* (Vol. XXXI, No. 18, 1898), such empiricism is fatal to the scientific treatment of tuberculosis, even though creosote does seem to be indicated in every case. Creosote probably exercises its curative action in the lung because of its physiologic property of stimulating the bronchial mucosa, where it is eliminated, and its action as an expectorant; not as a specific for the disease of tuberculosis.

The healthy human body is not susceptible to infection by germs of tuberculosis, because a vital resistance of the tissues prevents the development of any bacteria that may gain entrance, and those bacteria that develop in a lung to cause a miliary tuberculosis, do so because—from malnutrition, lack of exercise, the inhalation of sewer-gas or dust-particles, an ordinary cold or a previous attack of pneumonia—the lung-tissues possess a diminished resistance and afford a suitable soil for their development. A diminished resistance is probably present in the bronchial mucosa, of which there is a vast expanse in the lung, and when an infection is once established at a given point it is clear that the adjacent will afford slight hindrance to an extension of the tubercular process. The object of our treatment should be to raise the vital resistance of

these adjacent cells of the bronchial mucosa in order that they may resist an extension of the disease and thus limit the tubercular inflammation to a single spot, which should mean an eradication of the disease. Creosote, the writer continues, does improve the resisting power of each cell, which it stimulates to a more perfect metabolism, and if to this favorable condition there are added an abundance of good food to supply these cells with nourishment, and plenty of fresh air to supply the blood with good red oxyhemoglobin that may further assist their metabolic processes, the patient is placed under the best conditions for recovery. The creosote, it will be observed, does not exercise an anti-bacillary action, nor does it even diminish the virulence of the tubercle bacillus, but as a treatment for tuberculosis it is the most satisfactory agent that we know, since it succeeds in establishing a condition of health in the mucosa that will help nature to overcome the disease.

S.

Can Sodium Iodide be Substituted for Potassium Iodide in the Treatment of Syphilis?

Colombini and Simonelli (*Giornale ital. delle malattie ven. e della pelle*, Vol. XXXII, pt. 1) show that in its action on the blood sodium iodide has distinctly different results from potassium iodide. In the early stages of the syphilitic process sodium iodide would seem to have no effect on the hemoglobin, and it induced a diminution in the number of red blood-cells. In general it produced a slight leucocytosis, in a few cases only was the number of white cells diminished. The authors come to the general conclusions that not under any circumstances is the substitution of sodium iodide to be practised in the treatment of syphilis and that it is not the iodine alone in the potassium iodide that gives good results, but also the potassium.

J.

Vasogen

Ullman (*Munch. med. Woch.*, Nos. 23-24, 1898) asserts that vasogen as a base for mercurial ointments hastens the absorption of the mercury and consequently the disappearance of syphilitic symptoms more than any of the ordinary mercurial ointments. As by its use salivation sets in very early the writer employs only 2 gme. of a 50-per-cent. Hg-vasogen ointment and 3 gme. of a 30-per-cent. for each inunction. Furthermore, this preparation produces no irritation, and is therefore very valuable in pediculosis, where 8-15 gme. of the 30-per-cent. Hg-vasogen are applied over the af-

fected parts by means of slight friction, twice in twenty-four hours; this is followed by a hot soap-bath the next day.

Iodo-vasogen (6-10 per cent.) has also proven to be of great benefit in various cutaneous and subcutaneous diseases, such as glandular swellings, periostitis, sycosis parasitica nodosa, etc. In gingivitis, stomatitis mercurialis, and gumma of the palate a 1½-per-cent. solution of iodoform in vasogen exerts a rapidly beneficial effect. A 10-per-cent. ichthyol-vasogen ointment acts more quickly than any other ichthyol preparation. The writer employed a 25-per-cent. mixture of oleum rusci in vasogen in twenty-five cases of eczema squamosum, seborrhea of the face and head, psoriasis, lichen ruber planus, and dermatitis herpetiformis with excellent results, leaving no irritation behind.

A 10-per-cent. naphthol-vasogen solution is especially indicated in pityriasis versicolor and herpes tonsurans, and the author recommends the following formula in scabies:

R—Naphtholi (β)	
Balsami Peruv. }	a.a. 10.0
Sapon. Kalin. Venet. }	a.a. 20.0
Ceratæ Albæ Pulv.	
Vasogen Sulphur (3% spiss.)	40.0
Ung.	

S.

Ammonium Fluoride in Gastric Fermentation

Baudoin (*N. Y. Med. Jour.*, LXVIII, p. 720), in his thesis to the faculty of Paris, relates the results obtained by Dr. Robin with ammonium fluoride in the treatment of abnormal fermentations of the stomach. Ammonium fluoride, he says, acts upon lactic, butyric, and acetic fermentations, not only by destroying the ferments, but by modifying favorably the influence of the gastric juice on the digestion of albuminoids and the refuse. Its bactericidal action is not simply transient, but appears definite, as his observations show. Ammonium fluoride has no noxious action on the chemical ferments of the stomach. It is perfectly tolerated, and has no toxic action on the organism.

Unguentum Crede as a Specific in Septic Infection

The above-named ointment is made up of 15 per cent. of soluble metallic silver, known as argentum collodiale, discovered by Professor Credé. O. Werler (*Deutsch. med. Woch.*, Vol. XXIV, No. 40, 1898) again calls attention to its value as an internal antiseptic when used by inunction, and confirms the opinion of several authorities that this ointment acts as a specific in all

forms of acute and chronic septic poisoning, rapidly counteracting the effects of pathogenic bacteria.

He describes three cases treated by him with this method with unvarying success.

One patient under his care, a girl 9 years old, suffered from a septic phlegmon on the right index finger. The swelling of the hand was very marked; so were the symptoms of general infection. He prescribed:

R.—Unguentum Credé 1.0

Doses No. III.

D. ad Chartam Ceratam.

Sig.: After cleansing the skin carefully, one of these small packages of the ointment is to be rubbed in over a large surface of the body once a day, 20-25 minutes each time.

Four inunctions were made; at the same time cold compresses of a 1-4000 itrol solution were applied over the phlegmon. Complete restitutio ad integrum set in within ten days.

The same method with like success was used in a case of chronic eczema, and in one of multiple chronic furunculosis. Dr. Werler thus concludes that:

1. In the soluble metallic silver we possess a specific against septic infection, provided the diagnosis is made early, before the appearance of secondary symptoms.

2. The use of silver preparations is applicable in acute as well as chronic sepsis and furunculosis.

3. The best results are obtained by inunction of Credé's ointment which, being rapidly absorbed and carried into circulation, forms a universal antiseptic and disinfectant of the whole human organism. S.

Antitoxic Role of the Thyroid Body

Bull. méd. (No. 80, Oct. 5, 1898, p. 917) has the following from Blum (Frankfort). Whatever some authors may say of it, the thyroid body is an important organ for life. This is verified by the fact that, of ninety-four dogs suddenly deprived of their thyroids, ninety succumbed in a characteristic manner. Blum thought at first the thyroid was an internal secreting gland—Brown-Séquard's conception—but little by little he is convinced against this. He is sure the iodine compound which Baumann found and isolated does not pass into the circulation, but is destroyed in the thyroid body itself, and the iodine is eliminated by the kidneys. Dogs deprived for months of foods containing iodine have yet shown appreciable quantities of iodine during their subsequent life.

On the other hand, administration of potassium iodide produces enrichment of the thyroid body in organic iodine com-

pounds, which can be produced only by the deposit of free iodine. Iodine plays an important rôle in the thyroid body. It serves to produce an antitoxin, and it is likely that iodine is not the only antitoxic agent which is found in the thyroid body. If the toxic product which normally is taken up and destroyed in the thyroid, is found in the circulation after destruction of the thyroid, not only clinical symptoms but also anatomopathological irritation of the nerve-centers follows. This toxin is a poison of the nervous system, which exists normally in the organism, but which the thyroid body arrests and destroys. H.

Local Treatment in Articular Rheumatism

Bourget (*Jour. des Prat.*, 1898, No. 29) recommends the following ointment:

Salicylic Acid	3 gme.
Oil Turpentine	3 gme.
Adeps Lanæ.....	20 gme.
Lard	20 gme.

This ointment is spread over the parts, and a dressing of absorbent cotton applied and covered with any impervious material. The oil of turpentine softens the skin and favors the absorption of the salicylic acid.

Sterling (*ibid.*) recommends the omission of the turpentine-oil, on the ground that it is apt to induce eczema.

Arendt (*ibid.*) recommends ichthyol-applications, according to one of the following formulas:

- 1.—Ichthyol 10 gme.
Distilled Water..... 10 gme.
Adeps Lanæ..... 30 gme.
- 2.—Ichthyol 10 gme.
Extract Belladonna..... 1 gme.
Adeps Lanæ..... 20 gme.
- 3.—Ichthyol 10 gme.
Diluted Alcohol 10 gme.
Distilled Water 40 gme.

F.

Liquid Air as a Drink

At a meeting of the Society of Biology (*Scient. Amer.*) D'Arsonval referred to some researches which he had made with regard to the action of liquid air upon sundry tissues and upon mucous membranes. Actual contact did not take place, and the substance could be introduced into the stomach. D'Arsonval had offered a guest some liquid air mixed with champagne, and he, without waiting till the champagne thawed, swallowed the whole glassful, containing about 15 cc. of liquid air. After a few moments his stomach was acutely distended, but a sudden violent expulsion of food and gas relieved this condition. If liquid air be poured upon

the hand it assumes the spheroidal state and breaks up into globules, which scatter in various directions. It has been proposed to employ it in diving operations, for a diver carrying a liter of liquid air upon his back would have 1000 liters of air to breathe. D'Arsonval also placed in liquid air some dried bacilli and bouillon-cultures of diphtheria bacilli and *Bacillus pyocyaneus*. In one case they were there for six days and nights until the air evaporated. He then sowed the cultures on agar, and found that, contrary to what he had expected, the liquid air had very little effect. Growth went on regularly, the individual bacilli were slightly damaged, and the only marked modification was that the *Bacillus pyocyaneus* had lost its chromogenic power—a modification which, of course, is not of the least importance.

Injection of Potassium Iodide in Malarial Spleen

Parona (*Policlinico*, 1898), after a careful consideration of four cases in the hospital at Novara, comes to the conclusion that in many cases of malarial spleen extirpation of the organ may be avoided by the subcutaneous use of the Durant iodine potassium-iodide solution. One gme. of the following solution is injected daily: Iodine, 0.25 gme.; iodide of potassium, 2.5 gme.; guaiacol, 2.5 gme.; glycerin (sterilized), 25.0 gme. No trouble is produced at the site of injection, while a very gratifying diminution in size of the spleen and improvement in the composition of the blood results.

J.

Ichthyol in the Pruritus of Pregnancy

Doizy (*Bull. méd.*, XII, p. 904) has had under observation a pregnant patient suffering from a vulvar pruritus. The disease had resisted all the usual remedies, such as alkaline baths, zinc ointment, hot lotions, chloral-solutions, carbolic acid, mercury bichloride, etc., but was finally overcome by the application of a 15-per-cent. ichthyol-ointment. The author believes that ichthyol is rationally and logically indicated in all cases of vulvar pruritus, and recommends it to be used either as a 10-per-cent. ointment, plaster, or lotion (aqueous). F.

Monochloracetic Acid in Xanthoma

James C. Maguire (*Journal of Cutaneous and Genito-Urinary Diseases*, July, 1898) reports the treatment of several cases of xanthoma by monochloracetic acid. The acid was applied to the lesions, and no pain was experienced, the only noticeable change being the lightening in color. The eyes

were properly shielded so that none of the acid could attack these organs. The surrounding skin became considerably swollen, but this soon passed off. The acid should be applied to only a small surface at a time, an area no larger than split pea. The lesion immediately turns white, which is followed in a short time by a dark crust, which separates spontaneously.

All of the cases treated by Maguire were cured.

Lanolin for Preventing Sore Nipples

Mallett (*New York Med. Jour.*, Sept. 10, 1898) recommends the use of lanolin for the prevention of sore nipples. The patient is instructed to begin its use five or six weeks before the expected confinement, a small portion of lanolin is thoroughly worked into the nipple every night, extra pains being taken to work it well into the folds or crevices. In the morning the nipple is thoroughly washed and brushed with soap and water, continuing for three or four minutes at a time, after which it should be rinsed and dried as in ordinary bathing; this has the effect of removing all the epithelium and crusts or secretions which may have accumulated. These agencies combined with the external rubbing of the clothing, aid in developing the cuticle, rendering it firm, elastic, and resistant which is a guard against subsequent abrasion and tenderness.

W.

Treatment of Hyperchlorhydria

Boas (*Univers. Med. Magaz.*, XI, p. 47) recommends the following mixture for the treatment of excessive secretion of hydrochloric acid:

Sodium Sulphate	6 parts
Potassium Sulphate	1 part
Sodium Chlorate.....	6 parts
Sodium Carbonate	5 parts
Borax	2 parts

Dose: Half a teaspoonful, dissolved in half a glass of water, three times a day, before breakfast, and two hours before luncheon and dinner.

F.

Sanatogen

Gumpert (*Deutsch. med. Woch.*, Vol. XXIV, No. 40, 1898) praises the above preparation as a valuable food. It consists of 95 per cent. of casein and 5 per cent. of sodium phosphoglyceride. It is a white, almost tasteless, odorless powder, swells up in cold, and forms a milky solution in hot water. In order to avoid forming lumps it is first dissolved in cold water, and may then be mixed with milk, cocoa, chocolate, soups, wine, rice, etc.

The writer has employed this food in thirty patients, suffering from diseases of

the stomach, heart, lungs, etc. Prolonged use of it produced no disgust for it nor any bad after-effects.

Sanatogen was willingly consumed by the most sensitive patients, and was unattended by any disturbance of the alimentary canal. Containing as it does 95 per cent. of albumen it, in some cases, substituted most of the other nourishments, and where other food-preparations failed, the writer was able to strengthen the patients and make them gain in weight by means of it. S.

Solanum Carolinense

E. James Milwain (*Pharm. Rev.*, XVI, p. 425), in a paper before the joint session of the Alabama and Tennessee societies, states that *Solanum carolinense* is of no therapeutic value in acute cases when given in small doses, but in doses of $\frac{1}{2}$ to 1 dr. it possesses effective curative properties. In spasms in children due to any cause, it is a specific. Milwain makes an oil by macerating the green berries in sweet oil for a fortnight. He reports that "in the lying-in room a tampon saturated with the oil firmly applied against the cervix will produce painless dilatation as nothing else will."

Points in Treatment of Bronchitis by Drugs

According to *Treatment*, June 9, 1898, no better combination can be given in acute bronchitis of adults than ammonium acetate, spirits of nitrous ether, and ipecac, or antimony. But small doses of the acetate are useless. Begin with 3 dr. and increase till the skin acts freely. Give doses of this drug and of the niter often. In children the writer has found antipyrine better than the acetate of ammonia.

One-twentieth grain doses of antimony are of most service where there are abundant moist sounds and breathing is oppressed.

Where there are dry rhonchi all over the chest and there is irritable cough, ipecac is more useful than antimony.

Small doses of aromatic ammonia are of little use, but 10 grn. of ammonium carbonate may cause distinct quickening and increased strength of the pulse. This drug should be given at short intervals, dissolved in water, and given in milk for chronic bronchitis.

Senega should not be given oftener than every four hours.

Squills is useful in all forms of chronic bronchitis; but ipecac is more useful if there is much dyspnea.

Inhalation of oxygen should be begun early enough to prevent cyanosis. H.

REVIEWS

A Manual of Otology. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otology in the Harvard Medical School, Boston. In one handsome 12mo volume of 400 pages, with 109 Engravings and 1 Colored Plate. Cloth, \$2.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This is particularly designed as a short, compact treatise on otology to meet the requirements of students and to save them the time and trouble involved in wading through larger and more exhaustive volumes. The author has certainly done good work in his choice of material and his exclusion of the rare things of otology to make room for the more common and every-day matter that is always in demand. It is a handy manual, true to its name, and true to the claims set forth in its preface. With a work of this kind it would be easy to become hypercritical and point out defects necessary to its limit of size. Much is omitted that some purchasers of the volume will wish was present, but this is necessary and unavoidable in a book of this description.

The Medical News Visiting List for 1899.

Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient Perpetual consists of 256 pages of blanks. Each style is one wallet-shaped book, with pocket, pencil and rubber. Seal-grain Leather, \$1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co.

For the doctor a visiting-list is an indispensable convenience. Its blanks enable him at once to note clinical details, charges, receipts, and to unburden his memory from what can better be carried on paper. It furnishes him with a legal record for the collection of delinquent bills. Prominent among the many books of this nature stands the "Medical News Visiting List." Its pages are arranged to classify and record memoranda and engagements occurring in practice. The work opens with thirty-two pages of printed data, including an alphabetical table of diseases with approved remedies, doses, examination of urine, artificial respiration, incompatibles, poisons and antidotes, a diagnostic table of eruptive fevers, and a plate showing the incisions for ligation of the arteries. It is printed on fine, tough paper, durably and handsomely bound in the size of a wallet for the pocket.

Treatment of Skin Cancer. By W. S. Gottheil, M.D., Professor of Dermatology at the New York School of Clinical Medicine. Pp. 67, with 4 Engravings. Price, \$1.00. International Journal of Surgery, 100 William street, N. Y.

This little volume is a mere review of the literature of the medical treatment of skin-cancers, presenting nothing new or original. About thirty pages are devoted to a superficial discussion of the classification, etiology, and pathology of cutaneous cancers, twenty-six pages to diagnosis and treatment, and twelve pages to the de-

scription of six cases treated by the author. Of the many escharotics enumerated, arsenic alone is carefully elaborated upon; with the other drugs the author does not seem to have had any notable experience.

The style and construction of the sentences are rather faulty. The following sentence, for instance, needs recasting: "At the muco-cutaneous orifices also the treatment to be recommended below for the vast majority of skin-cancers can not always be used." The phrase: "I have yet to see or meet," is too frequently used, and the writer too often loses himself in high-sounding expressions, such as: "Cuirasse," and "recalcitrance," etc.

As a whole, this little volume could advantageously be abbreviated and transformed into a medium-sized contribution to our medical periodicals. The attempt to make it a source of revenue will, we fear, fail, as one dollar is too high a price for such a brochure; moreover, the subject of skin-cancers is thoroughly elucidated in every popular text-book on surgery, making this treatise superfluous.

Practical Diagnosis. The Use of Symptoms in the Diagnosis of Disease. Third Edition, Revised and Enlarged. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Illustrated with 204 Engravings and 13 colored plates. Lea Brothers & Co., Philadelphia and New York. 1898.

A year ago we had the pleasure of reviewing and giving our views regarding the value of the second edition of this work. That another edition has been called for so soon is an evidence of the popularity of the author and the value of the work. In the preface we are told that in Great Britain the volume has met with equal favor to that accorded it here. This ought certainly to be very gratifying to Dr. Hare. The fact that this work is the only one yet published in this country that approaches the question of diagnosis after the style of the inductive sciences is probably the secret of its great success. It carries the reader from the symptoms to the disease instead of the common method of carrying him from the disease to the symptoms. It follows the method by which nature meets the physician at the bedside. He must study the symptoms first to discover the disease instead of having a teacher tell him the name of the disease and then point out its symptoms. No doubt this edition will meet with the same or more favorable consideration from the profession than did the preceding ones. It is certainly a book well worth careful study and to the young graduate particularly it will prove a great boon.

The Care of the Baby. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozier Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Second Edition, Revised. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, \$1.50.

This volume is much better adapted as a guide-book for medical men to enable them to answer questions, give directions, and aid mothers in caring for their babies than as a manual for the mothers themselves. It contains so many technical words that to the average mother some of it would be almost incomprehensible without a medical dictionary to refer to as she reads. Its

medical information is too meager to be of any value to the doctor and too vast to be of much real service to the average mother. It would tend to create in her that condition of little learning which Pope wisely assures us is a dangerous thing. It contains a large amount of really valuable and useful information well presented and which every doctor and every mother should know. Its remedies for local use need trimming to keep them from leading to danger in the hands of the inexperienced. We hardly know whether to commend or condemn it most as a volume for mothers since it contains so much that is excellent combined with what we are confident experience will show is the reverse of excellent. To the doctor very much of its contents will be exceedingly acceptable for their suggestiveness in recalling many needed facts about the care of babies which he is likely to forget and which he is prone to leave to the care of others who know less of the matter than he does himself.

Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and their Treatment by Electricity. By G. Beton Massey, M.D. Third Edition, Revised, Rewritten, and Greatly Enlarged. Illustrated with twelve original Full-Page Chromo-lithographic Plates and twelve Full-Page Half-Tone Plates of Photographs taken from nature and numerous Engravings in the Text. Philadelphia, New York, Chicago. The F. A. Davis Co., Publishers. 1898.

In the previous two editions the title of the work was, "Electricity in the Diseases of Women," but this edition has been so revised and enlarged that what was originally a mere treatise on the use of electricity in fibroid tumors and certain other affections has been transformed into a treatise on the medical and surgical diseases of women with special reference to the therapeutic use of electricity.

It would have been far better if the author had retained the less pretentious title of the former editions, because while as an exposition of the technique and of the indications of electricity in gynecological practice the work is quite satisfactory, it is exceedingly unsatisfactory and defective as a "Treatise on the Diseases of Women." In fact, it cannot even be seriously criticized as such. The book is full of reports of cases, which had been treated for years by numerous physicians and specialists, and all in vain, but became benefited immediately on coming under the author's care; we think we are not far from the truth when we assert our convictions that one of the author's objects in writing the book was to announce to the medical profession, and incidentally to the laity, his skill and success in treating female diseases.

We do not want to be understood as disparaging the employment or discrediting the success of electricity in gynecology. On the contrary, we believe that Apostoli has by his discovery conferred a great blessing upon suffering womanhood and we should like to see gynecological electro-therapeutics gaining a firmer and wider foothold than it has so far; but it is our opinion that overzealous advocates always spoil the cause they advocate; and the author in trying to make us believe that gynecological surgery should be relegated to the past, that electricity is a panacea in all gynecological affections, having practically no limitations, is certainly more an injury than a benefit to the cause of electro-therapeutics in the United States. The mechanical execution of the book is excellent.

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EDITOR'S NOTES

The anti-vaccinationists are flooding the country with pamphlets that seek to create prejudice against medical men and vaccination in the minds of the masses. It is probably their late success in England that has encouraged these eccentrics to try the same schemes in this country. Every man and woman in the community that has a decided mental kink is pretty certain to enlist in this crusade and make common cause against the scientific and progressive. It is enough for such people to know that it is opposed by our cleverest-thinking and best-posted men and women for them to make up their minds that they favor it. Cranks of every stripe having a grievance against society and against progress always turn a sympathetic ear toward every new doctrine that promises them a fresh opportunity to air their eccentric ways. All quack practitioners, Christian scientists, osteopaths, metaphysical healers, anti-vivisectionists, communists, and anarchists are quite likely to rally their forces into combined action against their common enemy—science—and seek by fair or foul means to have it suppressed.

Dr. Vincent Gomez, of the BULLETIN editorial staff, has been appointed by General Wood as Mayor of Gibara, Cuba. Our readers have been familiar with his abstracts for two years, and have known him as one of our most painstaking and active workers. He is a native of Cuba, and went thither

some weeks ago to look after property to which he was heir that had been left uncared for during the war. As he speaks English without a taint of foreign accent, and as he is equally at home with Spanish as well as being quite familiar with French, Italian, and German, he should make an efficient aid to General Wood in that now polyglot region to which he is assigned. The doctor is a graduate of Long Island College Hospital, has served as instructor of otology at the New York Polyclinic, as assistant surgeon at the New York Eye and Ear Infirmary, and as captain and assistant surgeon in the 112th Regiment, of the New York National Guard. Just before leaving for Cuba he and Dr. Lester, formerly of the BULLETIN staff, together experimentally studied the effects of great atmospheric pressure upon the organs of hearing. During a recent visit of Lilioukalani, ex-queen of Hawaii, to New York, she was treated by Dr. Gomez for an affection of the ear. We are quite sure that our readers will join with us in wishing him success in his new station.

The progress of modern bacteriology is playing sad havoc with the sanctity of many religious ceremonials and rights. The common communion-cup met the first serious attack when it was shown that it was the means of conveying pathogenic bacteria from one infected user to many healthy mouths. Now comes Prof. Vincenzi, of the University of Sassari, who declares that an examination of the holy water in one of the most popular churches of the city where he resides revealed the presence of multitudes of bacteria, both harmless and pathogenic. On Saturday evening, when the water had been little used, a single drop spread on gelatin gave 2350 colonies, and on Sunday evening after service the colonies yielded by a drop were "innumerable." Notable numbers of colonies of *Bacillus mucosus* showed that the holy water must have been used by many after picking their noses. Even *Bacillus coli* was present in abundance, showing that there was a still more offensive association between the fingers and the faces through the holy water.

The *Philadelphia Medical Journal* will, on January 1, 1899, absorb the *Philadelphia Polyclinic*. In the issue of November 19, the editor of the latter journal said: "As the *Philadelphia Polyclinic* will continue its weekly visits to its friends until the conclusion of the current volume, on December 31, we shall postpone until then the pleasant sadness of farewell."

The *Journal* seems to be surging ahead in

its good work of fighting quackery and working out reforms. Dr. Gould is "a hustler," and deserves great credit for what he has accomplished in so short a time. He certainly has the best wishes of the BULLETIN.

William Smith, one of the professors of osteopathy at Kirksville, Mo., has sued the *Medical Age*, of Detroit, Mich., for \$25,000 damages for libel, because in one of its editorials it disputed the respectability of his present calling. This man Smith claims to be a graduate of Edinburgh, Scotland, although this has been doubted, but it is possible that on the strength of such graduation he may aim at showing that a statement of the *Age*, reflecting upon his medical standing, was unjustifiable. Or he may hold that because Michigan has recognized his school as a legal one, that he can therefore attack Mr. Warren, the publisher of the *Age*, and, by the laws of that state, prove that osteopathy is not quackery. It is needless for us to say that we wish Mr. Warren success in his fight.

The phosphorus-necrosis of the match-factories is such a serious malady that very naturally numerous attempts have been and are being made to eliminate it altogether by eliminating the use of yellow phosphorus in the manufacture of the match-head. According to a late number of the London *Lancet*, a new successful match-head is composed of a mixture of potassium chlorate, whitening, plaster of Paris, ground glass, glue, and amorphous phosphorus. The amorphous phosphorus is probably not poisonous; at least it is stated that seven ounces given to a dog in twelve days produced no symptoms of toxemia. The mixture of red phosphorus and potassium chlorate is a violent explosive, which is largely used in commerce in the making of caps, especially the toy caps used to shoot pellets of lead. The dilution of the mixture with inert principles is alleged to render it so much less active that it can be used for the purposes of fire-kindling.

PUBLISHERS' DEPARTMENT

RESINOL IN SYPHILITIC ERUPTION

H. N. Potter, M.D., Burlington, Vt., writes as follows:

"Some time ago I was called to see a little boy eight months of age. He had been under a physician's care for some time, but with no beneficial result. I found the case to be one of hereditary syphilis with a typical eczemic eruption affecting the face. Almost every application known to medical science had been tried, among them

being preparations of mercury and zinc, which had increased the eruption. The child was in a bad condition constitutionally, and the irritation of the face kept him crying and awake night and day. I tried several preparations, but with hardly any beneficial result. I then sent for a sample box of Resinol, and from the first I noticed a marked improvement. The intense heat of the face was relieved, the irritation stopped, and the eruption commenced to disappear. After using Resinol for a very short time, and with the assistance of the constitutional treatment necessary in such cases the child was relieved of the bad condition in a few weeks. If it will be remembered that the eruptions of syphilis are probably the worst cases to treat successfully, it will be seen that the quick beneficial results from the use of Resinol were wonderful. After years of hospital experience I can say that I never have seen anything that acted so nicely and quickly in the eruptions of syphilis, as Resinol."

NEUROSINE IN WHOOPING-COUGH

Neurosine has been much lauded in the treatment of whooping-cough. It is indicated in the second stage of the ailment to shorten the duration of the cough. It contains no opium, morphine, nor chloral, and, therefore, will not produce the depressing or detrimental after-effects following the use of these drugs.

THE WAR IS OVER

And now our thoughts are all of peace and home. There are, too often, people to be found who have no home, and it is to them these few words are addressed. If you really want a home you can easily get one, but you should act at once before the relapse from the war puts prices on the advance. In Marinette County, Wisconsin, the very finest farming-land is to be had now at a most modest figure. Excellent home markets are at hand to take whatever the farmer raises, and good prices are given. These lands are on the Chicago, Milwaukee & St. Paul Railway, and full information concerning them will cheerfully be furnished by C. E. Rollins, Immigration Agent, 161 La Salle Street, Chicago.

NEWS

Cleveland, Ohio, is having an epidemic of smallpox. Five cases were reported up to November 16, and since then Health-Officer John Hess is said to have been attacked with this disease.

Louisville, Ky., is evidently trying to rival the two Kansas Cities in the number of its medical colleges. Another has just been added to the list, making the total five. The new college has adopted the standard rules and regulations required by the Association of American Medical Colleges.

The ninth annual session of the Middle Tennessee Medical Association was held in Nashville, November 17-19 under the presidency of Dr. E. W. Riding, of Dickson, Tenn. He delivered an interesting address treating of the evils of the morphine habit, the use of alcohol and cigarettes, unrestricted emigration, criminal abortion and the prevention of conception.

Reciprocal registration is at present a bone of

contention between the medical men of New Brunswick and Nova Scotia, and the heretofore-existing arrangement between them is likely to be broken. New-Brunswickers complain that Nova Scotia has passed candidates who failed in New Brunswick, and under the reciprocity arrangement they were able to return and practice in this province.

The marine-hospital service and the war department, says the *New York Commercial Advertiser*, are preparing to attack the yellow-fever problem in Cuba in a scientific and effective manner. A cordon of floating disinfecting plants is to be established around Cuba which is to disinfect ships coming to the United States; a thorough system of sanitation for the interior of the island is to be established, and fever-experts are to be stationed at different points to study and report on the condition of contagion.

According to the *Bulletin général de Thérapeutique*, as quoted by the *London Lancet*, the average duration of life amongst the chief nations of Europe is as follows, the figures being based upon the bills of mortality for the decade 1881-90: Sweden and Norway, 50 years; England, 45 years and 3 months; Belgium, 44 years and 11 months; Switzerland, 44 years and 4 months; France, 43 years and 6 months; Austria, 39 years and 8 months; Prussia and Italy, 39 years; Bavaria, 36 years, and Spain, 32 years and 4 months.

The Health-Board of New York is making another effort to enforce the law against the use of soft coal by manufacturers within the city limits. The Inspectors of the Bureau of Offensive Trades are reported as looking the matter up, but the papers seem to think that nothing will be accomplished. The smoke nuisance is certainly a great menace to the beauty of the city, as everything is becoming as black and grimy as Pittsburg once was and it is probable that the floating dust from the smoke of soft coal impairs the health of citizens.

The Columbus, Ohio, *Dispatch* of November 26 states that the medical men of that city have begun their preparations for the reception of the members of the American Medical Association on June 6-9, 1899. They expect not less than 2000 to be in attendance. Contracts have been made with local hotels for entertaining the officers of the Association. Places have been secured for the various sections to meet and for the general meetings. A series of entertainments and receptions are being provided for and the indications are that the drug-exhibits will be the finest ever provided for any convention.

A man named Archie S. Miller, of Virginia, died lately in Washington, D. C., of what the Board of Health of that city pronounced yellow fever. He came from Nicaragua via Porto Rico and was permitted to land at New York by Dr. Doty, Health-Officer of the port. Health-Officer Woodward, of Washington, declares that there is no doubt whatever of the diagnosis, but Dr. Doty scouts the idea of yellow fever. Dr. Woodward laughed at Dr. Doty's assertions when told of them by a reporter of the *Washington Star*, and said that he, Doty, was evidently trying to escape the responsibility of permitting the patient and his companions to pass through New York.

According to the *Lancet*, German and French manufacturers of false eyes turn out annually an enormous number. The number made in the German Empire is said to amount to the enormous total of 2,000,000 yearly, and at the

same time one French factory out of many makes 300,000 in the same period. These figures do not indicate in any way the number of human beings who have been deprived of the sight of one eye, for the artificial eyes include those used by wax-figure makers, by taxidermists, and even by the doll-manufacturers. It is noteworthy that the totally blind never wear false eyes. The person who has been deprived of the sight of one eye sees his disfigurement whenever he looks into a glass, and his esthetic sense—or perhaps his vanity—leads him to make good the deficiency in the best way he can. In the case of the wholly blind such feelings die out,

One of the Brooklyn street-railway companies in order to make a compromise between open and closed cars took a hint from the European style and placed a side-door by each tier of seats, hoping thus to be able to have the same cars do for open ones in summer and closed ones in winter. As there are many passengers of many minds and as conductors get tired of incessantly closing doors for every passenger a cry has arisen against the compromise cars. They have been declared by the public a nuisance and menace to health. In cold weather there is sure to be one door or two open most of the time, as for every passenger there must be three openings. It is opened when a passenger enters, open when one goes out, and opened to collect fares. The side-step, too, gets slippery in frosty weather and endangers the life of the conductor, as he has to go to and fro upon it every time a passenger enters and while the car is in motion.

Doctors Wasdin and Geddings, of the commission appointed by President McKinley to investigate the cause of yellow fever at Havana, have rendered separate preliminary reports of the results of their investigations. They both show that the *Bacillus X* of Sternberg, the *bacillus* of Havelberg, and all preceding claims of specific microbes have failed to be sustained as the cause of yellow fever. So far as their investigations have gone they seem to indicate that the *Bacillus icteroides* of Sanarelli is the true specific cause. Dr. Geddings concludes his report by saying: "In concluding this preliminary and independent report, which would indicate that the *Bacillus icteroides* of Sanarelli is the specific agent in the causation of yellow fever, I would beg to recommend that opportunity be given for further experimentation on lower animals with its toxins, and with cultures if necessary, and that both be tested in connection with the antiamarylic serum prepared according to the methods of Sanarelli."

According to the *New York Tribune* Italy proposes to found a society to promote the study of malaria, and as a preliminary to its formation a prospectus has been issued setting forth that every year two millions of people are attacked by the malady, of whom fifteen thousand die. It is prevalent in sixty-three provinces and nearly three thousand communes, and renders impossible the cultivation of upward of five million acres of land. Scientific study of the malady and the means of its prevention or diminution are the proposed objects of the society, but the latter is to be attacked more directly in one territorial quarter at least by a German company which has been organized to drain the Pontine marshes. The scheme consists in the construction of embankments built so as to regulate the flow of water from the mountains to the sea, and all around the marshes a large canal is to be dug to receive the water drained from the swamps. It is expected that they will thus become healthy

and productive instead of breeding-grounds of pestilence, as they have always hitherto been.

Probably the most complete hospital on wheels in this country is in the service of the Long Island Railroad Company. This hospital is nothing more than an ordinary passenger-coach fitted up for the care and comfort of injured persons. The transformation, however, has been thorough and while the exterior of the coach has not been changed to any great extent the interior is decidedly different from that of any other railroad-coach.

The car is forty-four feet long and is divided into two compartments. One is thirty-two feet long and the other twelve feet. The smaller compartment is known as the operating-room and the other is designated as the transportation-room.

At each side of the transportation-room and in about the center of the car is fitted an extra door through which stretchers may be passed in and out. Ten cots can be placed along each side of the transportation-room. These cots have been designed to act as stretchers as well as cots. They have folding legs which are tipped with balls of rubber to lessen the jar when the car is in motion. The cots are fitted with wire mattresses which are covered with brown canvas, so arranged that the covering can be removed quickly should it become stained or soiled, and a new one put on. Over each mattress are spread several gray blankets like those used in the Army. Air-pillows are provided in profusion.

The Health-Officers of Columbus, Ohio, and a number of the medical men of that city are having some friction over the question of reporting cases of contagious diseases, particularly of diphtheria. The doctors have objected to the publicity of reported cases and, according to the *State Journal*, claimed that it injured in divers ways the families where diphtheria had found entrance. They claimed that it was not the proper thing to put names and addresses in the newspapers, especially where it had not been fully determined whether a patient had the disease. To this objection Health-Officer Schueller published a synopsis of the law as he defined it, in fact it was practically an ultimatum, prescribing just what the physicians should do, and calling attention that a failure to observe these rules would be met with a penalty. A number of doctors have called at the health-office for culture-tubes recently, and on refusing to give the names of their patients before the disease is established, have been refused the tubes. This has not acted as a soothing potion to the already angered physicians, who declare that the practice is simply arbitrary and not founded on reason. A delegation of physicians will call upon the mayor and enter a formal protest against the dictum of the health-officer. It is also intimated that inasmuch as the doctors are not under any obligations to use the tubes furnished by the city, they will get their own, a number contributing to the purchase of an incubator by which to make their own examinations.

In a recent paper read by Dr. Senn at a joint meeting of the Chicago Medical Association and the Chicago Examiner's Association he recounted some surgical experiences of the late war in Cuba. He said that many of the soldiers that were shot went on firing apparently not knowing that they were hurt. In one case a bullet penetrated three-fourths of the thickness of the thigh and the wounded man kept on firing. He dealt fully on the value of first-aid dressing,

and in this connection alluded to the difference between the medical arrangements in the Cuban and the Porto-Rican campaign, stating emphatically that they were in the former case most defective, while General Miles had taken every precaution possible in relation to medical supplies. He said that experience was clear on the point that a first-aid application of antiseptic dressing was sufficient to prevent wound-complications, provided the dressing was not changed, and there were no attempts to probe the course of the bullet. The process of hermetically sealing wounds at once had saved many cases. He referred to the lack of provision of immobilizing material. Fortunately, in Cuba an excellent substitute for the plaster of Paris, which should have been provided, was furnished by the fiber of the leaf of the cocoa-palm. He was sorry he had not taken the opportunity of sending a carload of it to his medical friends in Chicago. He made a statement in regard to gunshot-wounds in the knee or hip, which, he believed, would be regarded as astonishing. Contrary to the experience of the civil war, in which these wounds were generally regarded as hopeless, they had found that, thanks to first-aid dressing, the patient promptly recovered, without loss of limb.

Dr. Walter Wyman, Surgeon-General of the Marine-Hospital Service, lectured on yellow fever before the St. Louis Commercial Club on the evening of November 19. The address followed a banquet at which Dr. Wyman was the honored guest. Among other good things in the address he said: "Either directly or indirectly through American influence the cities and ports of Cuba must undergo sanitary regeneration, and I am of the opinion that sanitary measures may be effective in the elimination of the disease; but if one port is made pure, it should not be subjected to reinfection from another port. Therefore, all of the yellow-fever ports of the Western hemisphere should be subjected to a like sanitation, for, as the leading power on this hemisphere, setting the pace for the smaller republics, we should aim at nothing less than a total elimination of yellow fever from the hemisphere. This may seem a large idea, but we will gain nothing unless we set our mark on high. A beginning in this matter has already been made by a resolution of the American Public Health Association, declaring it to be the duty of every government to remove such conditions from its seaports as render them a sanitary offense to the seaports of other governments, and I believe it is by no means a Utopian idea that a covenant may be entered into by the several republics of North, Central, and South America, in accordance with which the necessary sanitary engineering to remove conditions which perpetuate this disease in their several seaports will be agreed on and enforced. After our earnestness and good faith have been proven by improvements in our own seaport cities, in improvements in the sanitary condition of Cuban ports, a convention might be called having for its membership public sanitarians, civil engineers and financiers, representing each of the republics in question. A treaty might then be made which should provide for the examination of the chief yellow-fever ports by a commission representing the several republics. A decision should be made as to which of the ports should first be rid of its unsanitary conditions, together with a declaration of the measures necessary to be taken for correcting the same. Each country should obligate itself to put into effect the measures recommended, or measures of its own which should meet with the approval of the commission. The effects of such a treaty would be far-reaching."

American Medico-Surgical Bulletin

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No. 24

TO OUR READERS.

With the issue of the present number, we transfer all our right, title, and interest in the publication of the

"AMERICAN MEDICO - SURGICAL
BULLETIN"

to Messrs. MERCK & Co., New York. We bespeak for them the kind favor hitherto extended to us by the medical profession.

THE BULLETIN PUBLISHING
COMPANY.

NEW YORK, Dec. 25, 1898.

ANNOUNCEMENT.

Having acquired, from THE BULLETIN PUBLISHING COMPANY, the proprietorship of the "AMERICAN MEDICO - SURGICAL BULLETIN," we desire to announce that the publication of this journal will be discontinued by us, and that, beginning with January, 1899, we shall publish, monthly,

"MERCK'S ARCHIVES OF THE
MATERIA MEDICA AND
ITS USES."

the *Prospectus* of which, in an insert of the present number of the BULLETIN, we herewith commend to the perusal of the reader.

MERCK & Co.,
University Place, New York.

EDITORIAL

SUPRARENAL CAPSULES.

Among the various substances which at present loom up on the therapeutic horizon as being possessed of valuable remedial properties still mystic and uncertain is the suprarenal extract. Injected intravenously it certainly has a power of remarkably increasing arterial pressure, and there can be but little doubt that the increase of the arterial pressure is, as was originally asserted by Oliver and Schäfer, due to a direct action of the extract upon the muscular coat of the blood-vessels, and perhaps also of the heart. It is true that Szymonowicz and Cybulski at one time affirmed that after section of the cord the extract is incapable of producing rise of the blood-pressure, but Gottlieb, Velich, Biedl, and Fraenkel confirm the conclusions of Oliver and Schäfer; and the results which have been obtained by the local use of the extract are only to be explained by its possession of marked stimulant powers in relation to the muscular coats of the arteries.

The intensity and power of the action of the extract upon the normal animal are so extraordinary as to suggest that in all cases of acute failure of the heart or of acute vasomotor paralysis it would be the most useful of known drugs. Experimental evidence is not wanting, also, to corroborate this conclusion. Gottlieb found that its re-

vivifying influence upon dogs whose circulation has been paralyzed by enormous doses of chloral is most extraordinary, and in Mankoski's experiments dogs which had been chloroformed until circulation and respiration had practically ceased were at once restored by the injection of a solution of the suprarenal extract into the jugular vein. There is, however, at present very little recorded clinical experience with the extracts as a general stimulant. Huchard, it is true, has obtained alleged excellent results in neurasthenia from administration of from fifteen to thirty grains of the gland daily; beyond this clinical record seems to be wanting.

Moreover, the practical value of the remedy is made very problematic by the fact first noticed by Cybulski that it acts very fugaciously under all circumstances, and very feebly when given otherwise than intravenously. In the experiments of Gottlieb it was found that the suprarenal extract has no effect upon the blood-pressure when administered by the mouth; and that even twenty times the usual intravenous dose given hypodermically did not distinctly affect the circulation of the dog. The cause of this failure Gottlieb (*Archiv. f. Exper. Path. u. Pharm.*, Bd. 38, p. 100) believes to be due to a destruction of the active principle of the drug in the tissues, giving as a reason for a statement of Cybulski's that the action of the extract was not lessened by tying the renal arteries. On consulting Cybulski's original paper, however, we have been unable to find any such statement; on the contrary, that investigator asserts (*Wiener med. Wochenschrift*, XLVI, 1896, p. 258) that the active principle is actively thrown off from the kidney; basing this assertion on the fact which he has experimentally determined that the urine of the poisoned animal yields an extract which acts similarly to the pure suprarenal ex-

tract, an action which is not shared by urine obtained from the normal dog. Cybulski has also determined that defibrinated arterial blood does not destroy the extract when mixed with it. Rapid elimination is therefore probably the chief cause of the fugaciousness of the influence of the suprarenal capsules extract, although, as Cybulski determined that a solution of the permanganate of potassium quickly destroys it, so it would seem possible that the active principle is oxidized in the system to some extent.

The influence of the suprarenal extract upon the blood-vessels is so intense that it is probable that it may prove to be a local remedy of importance in various inflammatory and congestive diseases. Velich (*Wien. med. Blätter*, 1897) found that a sterilized watery solution of suprarenal extract produced when dropped in the eye marked pallor, and that in various conditions with granulating surfaces a similar local influence was manifested. It is stated that in cases of *eczema*, under the action of the solution, the red hyperemic skin becomes white, providing that the disease has not been of such long standing as to impair the activity of the blood-vessels. These observations, so far as the eye is concerned at least, have been confirmed by Darier, by Dor, by Maurange, and others. In the eye the pallor appears in from thirty to forty seconds and lasts from fifteen to twenty minutes. Maurange strongly recommends an aqueous extract for the prevention of hemorrhage during operations on the eye; also as a hemostatic, and as an assistant to the usual method of treatment in conjunctivitis, keratitis, glaucoma, and other ocular inflammations. It is important that the solution be made fresh at the time of using, as it undergoes rapid decomposition; it should always be sterilized by boiling just before it is used.

PNEUMONIA

WHEN the title pneumonia was first applied to inflammation of the lungs no one had any idea that such inflammation was probably but a local manifestation of a group of symptoms due to diverse diseases. Recent advances in bacteriology have brought us evidence that seems to be only reconcilable on the assumption that there are pneumonias and pneumonias all presenting clinical pictures so much alike that the best-skilled diagnostician cannot differentiate them without bacteriological evidence. Even with such evidence it is not always an easy task. As long as the bacteriologists kept searching for one certain, specific germ as a cause of the disease, contradiction and confusion reigned supreme. As soon as they began to reach the conclusion that different cases of pneumonia were due to wholly different germs then the fog began to clear up and the contradictions to disappear.

For some time the generally accepted specific cause of pneumonia was held to be the *Micrococcus lanceolatus* of Fränkel, but never at any time were all competent bacteriologists satisfied of this. Rival claimants kept arising that could not be suppressed. The evidence in their behalf in certain cases was as incontestable as that for Fränkel's micrococcus. Klebs, Friedlander, Klein, and others brought forth proof that cases of pneumonia existed in which Fränkel's microbe was practically absent, while other organisms were so abundant and so related to the disease that it was pretty certain they were its cause. Now it is coming to be the settled opinion that no one germ is the constant cause of pneumonia, but on the contrary it has at different times different causes. In some cases there is little doubt of the fact that the *Micrococcus lanceolatus*

is the cause of the inflammation, while in others it may be due to any one of many kinds of bacteria. It is now pretty well settled that some cases are but ones of influenza in which the germs of that disease have chosen the lungs for invasion. It is equally well settled that others are cases of typhoid fever in which the lungs and not Peyer's patches are the prominent regions of invasion. Still other cases are now held to be due to diphtheria and the evidence is strong that goes to show that erysipelas must claim a share.

All this means that when the practitioner has a case of pneumonia to treat it becomes his duty to recognize the fact that it may really be diphtheria he is dealing with, and that his patient is a menace to all those around who are not immune to this fatal disease. Only a bacteriological examination showing the absence of the Klebs-Loeffler bacillus can satisfactorily release him from that due vigilance which he should practice under such conditions of doubt. On making the examination it may be discovered that Eberth's bacillus is present in large numbers and the Klebs-Loeffler bacillus absent. In that case it would become the duty of the physician to see that the patient's urine and feces are thoroughly disinfected and placed where contamination from them is impossible. Where the pneumonia comes as a secondary invasion following the typical manifestations of these diseases there can be little doubt about what should be done by way of protecting others, but when the pneumonia is the first and perhaps only distinct manifestation it is difficult to decide.

In the treatment that has hitherto been given there is little less than a babel of confusion. Sometimes great praise will be bestowed upon a remedy and at another it will be denounced as useless or even harmful. Why should anything different from this be

expected? If twenty or more different diseases are confounded together and considered but one, what hope can there be of any sort of rational treatment, or what chance is there for an approach to uniformity of results from the same line of treatment? Should we all undertake to treat typical diphtheria, erysipelas, typhoid fever, malarial fever, measles, etc., in one and the same manner and never suspect any difference between them it would be a very long time before we could discover a single remedy that would cure them all.

To seek to discover a single specific remedy for pneumonia is equally hopeless. It is true that we have in digitalis a remedy that if given at the commencement will to some extent check the spread of the inflammation by interposing through its action on the circulation a mechanical hindrance, but digitalis cannot destroy the germs nor reduce the inflammation that has already begun. Remedies lauded as efficient at one outbreak prove useless when given in another.

At present it would be well for the practitioner to consider the character of the prevalent diseases by which his pneumonic cases are surrounded. If diphtheria is common it will do no harm to suspect his cases as possibly due to that cause. If influenza is epidemic it is well to remember that he probably has cases of that disease when he has cases of pneumonia. Such knowledge will suggest to the mind possible lines of treatment that will prove of great benefit to the patients. Reliance on *veratrum viride*, *aconite*, and *iodides* is often illusory, and it must always be remembered that they have a deleterious influence on the heart that tells against the patient during the period of resolution. Only when the fever mounts high enough to be a source of grave danger to the patient should any attempt be made to reduce it. A fever of 104° F. or less is more likely to be a benefit than an injury.

AMONG THE EDITORS

OUR OVERCROWDED PROFESSION

That the medical profession suffers from overcrowding, quackery, indiscriminate charity, and many other social evils is a patent fact, and that the public suffers equally or more is as absolutely true, though not generally believed and admitted. The attempt to abolish or at least regulate these evils by the enactment of laws is a tacit avowal of their existence and baneful nature. The futility of laws to control is shown by their frequent repeal. Illinois, again the battlefield of another medical crusade, is confronted by some of the same evils from which she suffered more than a score of years ago and supposed she was delivered in 1877. Legislation is at best only a temporary expedient. It gives only a brief respite. Sooner or later it brings disappointment. To be of permanent value changes must be fundamental. The pathologic tendency of the ultimate cause must be reversed into physiologic channels, a task by no means easy, but nevertheless expedient, if possible.

In explanation of the diseases which now afflict not only the medical but also the other learned professions and trades, Dr. Leartus Connor assumes "the existence of a national sentiment honoring the intellectual and dishonoring the physical trades," and declares that "Unless this sentiment can be changed, so that manual labor will be regarded as equally honorable and desirable to those with natural aptitude therefor, the medical profession will always be crowded with some good material and a large contingent of indifferent, and a still larger of bad." Fortunately, the doctor has offered a remedy, namely, the training of the body *with* the mind, combining a physical education with the mental and the readjustment of the free schools "to the conditions existing anterior to large towns and cities." He proposes that the expenditure of public money shall be limited to the lowest six grades, those in which three-fourths of the children receive all their education, that ample provision shall be made for their physical instruction by a

multiplication of teachers and abundant facilities, and that higher education shall be attained only by individual effort and personal merit. This readjustment, he assumes, will result in a symmetrical education, "a trained mind in a trained body," a state favoring an unbiased and wiser choice of vocation, a more natural division of labor, and, incidentally, a wholesome respect for physical as well as mental labor.—*The Physician and Surgeon.*

GOVERNMENT AID IN STUDYING DISEASE

Every city has a health-office whose time is taken up with the red tape of office and the collection of statistics, and he has little or no time to devote to the special study of the cause of disease, even if he possessed the qualifications. In the marine-hospital services we have such an institution, but it is too limited in its scope to accomplish the great good it is capable of doing. New York state has taken the initiative in making an appropriation for the study of tumors and cancers. Throughout the South thousands of progressive citizens, children, and infants die annually of malaria, dysentery, typhoid fever, and other diseases that we know very little about and cannot prevent. Yet no paid detectives are on the track of the guilty parties; they are, forsooth, unsought and unpunished. What do we know of so-called malaria? Is it really malaria? It is called so if it cannot be called typhoid fever, and typhoid fever is frequently called so when it is something else.

The department of agriculture has skilled entomologists at work on diseases of plants, spends thousands annually in the study of the weather, and the study of diseases of animals in the bureau of animal industry. The Smithsonian Institution spends thousands in the study of ethnology. Are these of any more vital importance than human existence? Millions are given for pensions; money is expended in every department by our progressive government, but in the direction of the study of human diseases little or nothing is done. Great appropriations are made and fleets fitted out for the discovery of the north pole, which, even if found, will be of no practical benefit

to humanity at large. No appropriations are made for the study and eventual making of our own country more habitable and safe to live in and to reclaim vast areas already discovered, yet almost uninhabitable on account of the diseases endemic there. This should be a national affair and stations for the study of disease under progressive, competent men should be thicker over our country than weather bureaus or agricultural experimental stations. When this is done we will learn that so-called malaria often is not malaria, and typhoid fever is not enteric fever always, and that people die by hundreds annually of fevers, the cause of which we know absolutely nothing at present.—*Georgia Jour. of Med. and Surg.*

NEWSPAPER MEDICAL ADVERTISEMENTS

The nostrum-advertising of newspapers is a unique and astonishing fact, when we look at it carefully and in a broad way. Is there a single newspaper in the United States that keeps its columns free from the disgrace? We would like to subscribe for it. We say this fact is unique and astonishing, and we mean thereby that, in any other department of thought or science, history or fact, it is an unheard-of thing, that without an exception, every newspaper of the land should pursue a policy and advocate doctrines absolutely contemptible to every expert in the specialty concerned. Could it be believed that every newspaper would allow its columns to be bought and controlled on all questions of law by a set of criminals or shysters, no one of whom had been admitted to the bar? Suppose millions of dollars were yearly spent in bribing these journals in the interest of a band of criminals, to set forth legal humbuggery detested by every reputable judge and lawyer of the land? Is it not preposterous? But is it not essentially what is happening as to medical truth? Or, suppose that, as regards electricity, all journals should unite to preach and advertise a lot of nonsense as to dynamos, electric lighting, etc., at which every electrician in the world would smile derisively; or, again, imagine that the owners of an insanitary, monopolistic water-supply should control all newspaper-utterance

in the interest of stock-dividends and constantly blare forth their lies and crimes in the name of health and virtue—in any such supposed cases, would not the newspapers become ashamed, and the community find a way to make an end of it? Surely, there is not an editor, even of the yellowest variety, who would deny that what every member of the medical profession would call medical and scientific sin is in reality sin. Especially would this be admitted if, with scientific physicians, were associated the sectarians. And yet, is there a regular, homeopathic, or eclectic M. D. in the United States (not financially interested in quackery), who is not heartily ashamed and disgusted with the combined knavery, ignorance, and imposture of the newspaper "medical" advertisement?—*Philadelphia Med. Jour.*

THE ANTIVACCINATION PROPAGANDA

The visit of Mr. William Antivaccinationist Tebb to this country should not be allowed to pass unnoticed, particularly as he is here to propagate the antivaccination craze. We have no doubt that if he expends one half the energy and money here which he and his deluded fellow workers have spent in England, such outlay will be rewarded by a considerable following, particularly if he operates in the hysterogenic zones of eastern New England, and in those portions of Canada in which mental compulsions and obsessions are endemic.

Mr. Tebb believes it to be his mission to start an agitation in this country against regulations of health boards which make it necessary for children to be vaccinated before they can enter the public schools, and also against the Federal law requiring all immigrants to be vaccinated. Furthermore, he plans to hold the next International Antivaccination Congress here, the object being to enlighten the public concerning the evils of vaccination. Mr. Tebb avers that he has in his possession pictorial proof that the health of some immigrants has been injured by vaccination. Poor immigrants! Poor Mr. Tebb! We commiserate you, Mr. Tebb, and trust that the burden of these proofs is not greater than you can bear. We must inform you, however,

that deeply rooted in the minds of the American people is a conviction which reads: "You can fool some of the people all the time, and all of the people some of the time, but you can't fool all the people all the time."—*Medical News.*

HATED REFORMERS

There is a class that thinks it has settled the question by saying with a sneer: "O, he's a reformer—he'll get enough of it pretty soon!" In his heart the sneerer knows he is pronouncing his own condemnation, and that all medical progress is conditional upon the existence of the "reformer." Of course there are distinctions to be made; there are reformers, and reformers. Reform, *e. g.*, is sometimes but another name for egotism, using a public movement as a tool to attract attention to self. That in such cases the ass's ears are plainly visible through the lion's skin is no reason for refusing aid to endeavors that are really sincere and helpful. One who is earnest in reform can see as plainly the egotist's long furry ears, as he can the twinkle of the pig-eyes of selfishness in one who pretends scorn of all reform and of all reformers. Those, for instance, interested in the perpetuation of hospital-abuses, or in a low standard of medical education, may always be trusted to sneer at reform of these things. The editors of commercial medical journals will logically affect to scorn journals managed for and by the profession. The secret advertiser thinks the reformer is also a secret advertiser, and more of a hypocrite than himself. When city-jealousy is a dominating motive the establisher of medical libraries is such a "reformer." The one who profits by medical politics, naturally despises the "reformer," who tries to eliminate both politics and the politician from our medical societies—and so on.—*Philadelphia Med. Jour.*

CHRISTIAN-SCIENCE FANATICS

Surely one who has lived in this world for any length of time ought not to be surprised at anything. And yet one cannot suppress a feeling of astonishment, mingled with contempt, to see sensible people car-

ried away by the fanaticism of Christian Science, so-called. Hardly a day passes that we do not see the record of some flagrant case of neglect and death traceable to the vagaries of Christian Science. It is but a short time since one of our most prominent attorneys in St. Louis, bearing the title of Judge, permitted his only daughter to suffer for several weeks with typhoid fever, and cruelly deprived her of a physician, though she clamored piteously for one, her mother responding to her appeals only with the assurance that if she only willed it she was not sick, forcing her to get up daily and dress herself and go about the house in the performance of light domestic duties.

The result of course was death. In the face of this experience the mother subsequently died from cancer of the womb, from which she might have been saved, had the case been placed at the proper time under the care of a skilled physician. We can excuse these things upon the part of weak, emotional women. But how supposedly strong men, men of brains, force of character, and judgment necessary to attain eminence at the bar, can be a party to such madness is beyond comprehension upon any other ground save that of mental aberration. In this case and in others the father should have been indicted for manslaughter, and should have been punished. —*Medical Mirror*.

Consequences of an Immoderate Laugh

Feilchenfeld (*Deuts. med. Wochens.*, No. 30) gives an account of a little girl who took to laughing for a whole hour at the stories told by her companions. Suddenly she was seized with pain in the chest like angina pectoris: acute retrosternal pain, pallor, and cyanosis, pulse small and frequent, dyspnea.

This condition recurred several times the next day, then once a day for two weeks, and thereafter less and less frequently, disappearing finally without appreciable effect on heart. But each attack except the first was accompanied by phenomena of dilatation of the heart, which disappeared in a few hours. It is supposed the jerking of the pneumogastric by the rapid sustained movements of the diaphragm brought on paresis of that nerve.

H.

CURRENT TOPICS

THE SALIVARY AND PANCREATIC GLANDS IN CHRONIC TUBERCULOSIS

It has been observed that in many cases of phthisis there is a lack of the diastasic ferment (ptyalin) in the saliva; this led the author, Dr. V. D. Harris, to examine these glands in such cases. He shows (*Jour. of Path. and Bact.*, Vol. V, 1898, p. 302) that it would appear highly probable that the wasting of the internal organs, so often observed upon post-mortem examination of cases of chronic tuberculosis, either in man or other animals, is not a mere atrophy, as it has been generally considered. In fact, considerable evidence exists that it is due to a slow and definite fibrosis, which attacks the connective tissue first of all, and then indirectly produces destruction of the secreting cells of the glands. This has been proven to be the case with regard to the mucous membrane of the stomach, many cases showing a diffuse cirrhosis of the whole mucous membrane. Much similar change is also present in the salivary glands and the pancreas. J.

THE BRAIN-POWER OF PLANTS

A. Smith (*Med. Age*, Vol. XVI, No. 21, 1898) contributes a suggestive paper on the brain-power of plants. He argues that plants show certain physical qualities which indicate the existence of brain-power. One of these points is that plants sleep and need sleep. If they do not get it they suffer from insomnia. Electric lights have recently been used to stimulate the growth of plants. When treated this way they are prevented from sleeping, and the result in the case of perennials has been to weaken their constitution, and the following year their growth was scanty, and in some cases they were scarcely alive. Carnivorous plants possess the faculty of digesting. This, the author thinks, can only be carried on by brain-force, acting by means of the nerve upon the gastric organ of plants. Plants low in the scale of organization are subject to the influence of anesthetics. The movements of desmids and diatoms can be arrested by the application of chloroform or a weak solution of opium. The writer thinks that nothing but brain-power guides the shoot of germinating seed upward and the root downward. He sums up his conclusions as follows:

It is unnecessary to adduce further illustrations in proof of the fact that brain-power can and does exist apart from a

visible brain. When we see the irritability of the sensitive plant, transmitted from one part to another, exhausted by repeated artificial excitants, and renewed after a period of repose, it is difficult to dissociate it from animality. Still less can we witness certain organs taking determinate positions and directions, surmounting intervening obstacles, moving spontaneously, or study the manner in which they are affected by stimulants, narcotics, and poisons, and yet declare these phenomena to be caused by a different power which produces action and effects in animals. S.

SURE TEST FOR MORPHINE IN MORPHINE HABITUÉS

Stephen Lett (*Lancet*, No. 8, 1898) says that by chemical analysis we can detect morphinism to a certainty. The test which he recommends and which he considers much superior to the Bartley method is as follows: Collect about twenty oz. of urine from the suspected individual. If it has not an acid reaction, acidulate with dilute hydrochloric acid, until blue litmus is reddened by it. Concentrate to about three oz. and let it stand in a cool place for twelve hours; then filter. To the filtrate add sufficient sodium carbonate to render it alkaline; let it stand for twelve hours, filter, and collect the precipitate, and wash this with distilled water made slightly alkaline with sodium carbonate, and dry. Digest the dried precipitate with pure alcohol at a gentle heat and filter; evaporate the filtrate to dryness, dissolve the residue with dilute sulphuric acid, and test for morphine by the iodic-acid test, or other well-known tests. By this method morphine can be obtained from persons taking but very minute amounts of the drug. R.

THE LINGUAL TONSIL

This organ, states Dr. E. C. Ellett (*Ann. Ot. Rhin. and Laryngology*, Vol. VII, No. 3), is the anterior portion of the oropharyngeal lymphoid ring, lying behind the circumvallate papillæ, in the preglottic space, continued upward laterally almost to merge into the faucial lymph-adenoid tissue. It is divided into two lobes by the median glossoepiglottic ligament, and lies flat on the muscles of the tongue. It is composed of separate follicles, and varies in thickness from $\frac{1}{3}$ to $\frac{3}{8}$ of an inch. The functions of this tissue are supposed to be to act as a pad to prevent the lodgment of the food in the pre-epiglottic space; to serve, by virtue of some mucous glands, to moisten food and lubricate the region; and to moisten the circumvallate papillæ and thus assist in the

sense of taste. In addition it doubtless plays some as yet unexplained part, in common with other lymphoid tissues of this locality, in the physiology of the throat. The author groups the pathological conditions found in this organ as follows: 1. Acute inflammation, including abscess; 2. Chronic inflammation, including hypertrophy and varix; 3. Specific inflammations; 4. Neoplasms.

The symptoms which would lead one to examine the lingual tonsil for diseased conditions are: A sensation as of a foreign body in the throat; a feeling of constriction at the upper border of the thyroid cartilage; reflex cough; constant and ineffectual attempts to clear the throat; quick laryngeal fatigue and possibly hemorrhage. As to treatment: In acute inflammation there should be hot applications, steam-inhalations, demulcent drinks, and astringents in solution in powder form. Where there is pus-formation there should be deep scarifications, preferably with a galvano-cautery knife, to avoid bleeding. In chronic inflammation the offending mass should be removed by surgical means. Various tonsil-lotomes and snares for this purpose are made. But the best method is by the use of the galvano-cautery. A curved electrode is guided to the cocainized area by the aid of a mirror and contact then made. Several applications are necessary, the object being not to excite a disagreeable degree of reaction by too zealous treatment. Other applications are Churchill's tincture of iodine, silver solutions (grn. x to grn. xx—3i), mentholated oil, Lugol's solution, resorcin, and cautery by chromic acid. The specific inflammations are tuberculous and syphilitic. In addition to appropriate internal treatment, applications of acid nitrate of mercury or lactic acid are the most efficient means of local treatment. Neoplasms are rare. A retention-cyst, several fibrosarcomas, and an angioma have been recorded. For the angioma the Paquelin or injections of chloride of iron would be appropriate. G.

THE PARATHYROID GLANDS

When it is considered that, bulk for bulk, the amount of thyroid tissue in any one animal is many times greater than the amount of its parathyroid tissue, and when the known therapeutic effects of thyroid administration are remembered, it certainly seems a remarkable fact that an animal will, with its thyroid *in situ*, die of acute symptoms, provided only all its parathyroids have been removed, and a still more remarkable fact that the thyroid may be removed with impunity, provided only a few

parathyroids are left. D. A. Welsh (*Jour. of Path. and Bact.*, Vol. V, 1898, p. 202) has endeavored to give some explanation of these interesting anomalous facts. He shows as a result of much experimentation:

1. Removal of the four parathyroids in the cat leads to acute and severe symptoms, with a rapidly fatal issue, even though the thyroid be retained practically uninjured.

2. Removal of three parathyroids does not lead to death, but may cause transient symptoms, similar to those which result from removal of all the glandules; loss of two parathyroids does not produce any appreciable change.

3. Removal of the thyroid and some of the parathyroids may lead to death with acute symptoms if only one parathyroid is left, but may not induce any obvious derangement if two parathyroids are retained; at least, not for several months.

4. Mouth administration of the fresh parathyroid of the ox has no effect either in mitigating the symptoms or in averting death after removal of the thyroid and parathyroids in the cat, even though relatively enormous doses are given. J.

SEWER-AIR AND DIPHThERIA BACILLI

The effect that sewer-air might have on the toxicity of the diphtheria bacillus has been ingeniously experimented upon by S. G. Shattock (*Jour. of Path. and Bact.*, Vol. V, 1898, p. 305) in the conjoint laboratories of the Royal College of Physicians (Lond.) and Surgeons (Eng.). The plan of the experiments was to grow lowly virulent varieties of diphtheria bacillus in sewer-air and afterwards to test their toxicity in the usual method of subcutaneous injection on guinea pigs. The air was supplied from an artificially made sewer, since it was found that the air in the London sewers was too pure. The results would seem to show that lowly virulent diphtheria bacilli, when cultivated in broth over which fecal air is passed, do not acquire toxic properties, even when the treatment be prolonged for a period of two months. J.

NEW PROCESS IN HYDROTHERAPY

Bul. gén. de Thérap. (Oct. 30, 1898) gives an article by Bergmann, in *Deut. med. Woch.* (No. 35, 1898), a summary from *Wien. med. Press* (No. 38, 1898, p. 1522), of a combined hot and cold method of giving baths applicable in subacute and chronic affections of the abdominal cavity and its organs. The advantage of the combination is the avoidance of reaction.

The patient commences treatment with a

hot sitz-bath for a quarter of an hour, the temperature thereof being gradually raised from 28° to 30° C. (82.5° to 86° F.). Without being wiped, the patient is next put to bed and packed with a wet, cold T-compress, prepared beforehand, and he is left thus all night. He is of course, covered with a linen spread. The initial chill is soon followed by an agreeable sense of warmth more and more pronounced. The trunk thus treated is during the night deprived of heat by the agency of evaporation, vapor is formed, and secondary sweating ensues—a sort of vapor-bath, soothing to the nerves and producing sleep when hypnotics have failed.

In the morning the patient takes a dip of five seconds into a cold bath at 14° C. (57° F.), lengthened to ten seconds after a few mornings. Without wiping, he returns to bed, to be wiped and warmed. The method has been very successful. H.

DIGESTIVE FLUIDS AND TOXINS

That action of the digestive fluids upon the poisonous products of the bacteria plays an important rôle in immunity, is evidenced by the investigations of Charvin (*Arch. de Physiol.*, 1898, page 67), who found that most toxins were weakened by the action of the peptic secretions. Most of them were entirely destroyed by its action. J.

A PIN IN THE RECTUM FOR 30 YEARS

Dr. Akers reports the following instructive case—instructive as showing the advisability of digital or ocular examination of the rectum in diseases of that region (*Lancet*, Sept. 10, 1898). The patient, a man of 58, applied to the author, complaining of severe pain in the rectum on sitting, constant calls to defecation, and great suffering during the act. The feces would come out in thin, long pieces, tinged with blood. The patient had been suffering that way, in a greater or lesser degree, during the last thirty years. He consulted many physicians, but nobody subjected him to a local examination: the treatment consisting in the ordering of morphine suppositories and other local applications. On digital examination the mucous membrane of the rectum at the level of the internal sphincter was found greatly thickened, and above the sphincter, in the right wall of the rectum, could be felt the head and about half an inch of the body of a pin. Under the guidance of the finger the pin was caught by forceps and extracted. All the symptoms, which existed for nearly a third of a century, rapidly disappeared. R.

SELECTED PAPER

DISEASES AND ABUSES OF ANIMALS IN THE UNITED STATES—WHAT IS BEING DONE BY THE FEDERAL GOVERNMENT TOWARDS THEIR ALLEVIATION AND PREVENTION, AND WHAT THE HUMANE SOCIETIES OF THE COUNTRY MAY DO TO ASSIST IN THESE EFFORTS¹

By D. E. SALMON, D.V.M.,

Chief of the U. S. Bureau of Animal Industry

The farm-animals of the United States have increased to an almost incredible number. There are at present not less than 16,500,000 horses and mules, 46,000,000 head of cattle, 36,000,000 sheep, 40,000,000 swine and 350,000,000 fowls. The aggregate of suffering among these vast herds and flocks from preventable diseases, from exposure and from abuses, particularly in transit to market, is beyond the power of words to express, and even beyond the power of imagination to conceive. Only those who travel over our great territory, investigating the condition of the animals in all parts of the country, can have even a partial realization of what actually has been occurring annually from time immemorial.

The animals of the United States suffer from a great number of diseases, of course, as animals do everywhere. Some of these diseases are caused by exposure to the elements, some by unsanitary surroundings, some by bad food. The suffering from this source so far as it is preventable must be reached through educational influences brought to bear upon the owners of the animals. It is a slow process, more or less discouraging to those who are impatient for results, and it is often very difficult to see that any progress is being made through our efforts; but when one is right, has a good cause, and uses reasonable arguments, there is really more accomplished in the end in this way than by the adoption of more speedy and arbitrary measures.

In addition to the ordinary diseases of animals, there prevail more or less extensively in this country a number of animal plagues, which are propagated by contagion and which cause suffering and death to an enormous number of individual animals. This class of diseases is preventable by shutting out and destroying the contagion, or by making the animals insusceptible to its influence, and is, consequently, much more easily controlled than are the sporadic maladies first referred to. While, therefore, the Department of Agriculture has given some

attention to the education of the farmer concerning the hygienic requirements of his animals, its greatest efforts have been in investigating the cause of the communicable plagues; the conditions under which the contagion is disseminated; the means by which the contagion may be destroyed, and the methods by which animals may be made immune from the influence of the contagion.

The infectious diseases of swine were among the first to which the attention of the government was directed, because of the enormous loss which they have caused for many years. At that time, about twenty years ago, it was estimated that from three to five million animals were destroyed annually. This loss has continued to increase until now it reaches the enormous number of from seven to ten millions of animals annually.

Now let us see what the government has accomplished towards the relief of the vast amount of suffering represented by these millions of sick and dying animals.

The investigators demonstrated that there are two distinct plagues responsible for the sickness among these animals. They have discovered and studied the germs of these diseases. They have shown how these germs leave the bodies of sick animals and are disseminated. They have shown how the germs enter the bodies of well animals and cause disease. They have shown the disinfectants which are most efficient in destroying the germs, and the medical treatment which gives best results. They have tested the stamping-out method, and also the methods by vaccination, inoculation, and the use of antitoxic serum. It should be borne in mind that these investigators had no bias for or against any particular theory or method. What they have been searching for is a practicable plan of controlling these diseases. This practicable and efficient plan has been found in the serum-treatment. The other methods mentioned have, with hog-cholera, either failed or proved unsatisfactory.

The serum-treatment is very simple. It is applied to all the animals in a herd as soon as possible after the disease appears in that herd. Over 1900 animals have been treated from which we have practically full returns. We have treated herds in which 75 per cent. of the animals were so sick they would no longer eat. Within twenty-four hours many of these animals would already have regained their appetites, and by the second or third day the greater part would be eating and wonderfully improved. The well animals were made immune and the progress of the plague was soon stopped. Of the total number treated 78 per cent. have been

¹Paper prepared for the Washington Meeting of the American Humane Society.

saved, while in herds near by that could not be treated for lack of serum, only about 15 per cent. have recovered. This means that an outbreak of the disease can be arrested within a few days and the further spread of the contagion can be very effectually controlled by the serum-treatment. It means that we now have the power, after twenty years of research and experimentation, to prevent this loss of seven to ten million animals a year, and this power will be applied more and more each year, as facilities for making the serum are increased until the greater part or all of the sickness and death from hog-cholera and swine-plague is prevented.

The existence of the contagious pleuropneumonia of cattle among our beasts in the eastern states was forced upon the attention of the government by restrictions placed by foreign countries upon our export cattle-trade, and by the fear of the cattle-raisers of the West that the contagion would be carried to their herds, and ruin the great industry in which they were engaged. The contagion of this plague had been imported from Europe, it only existed in half a dozen states, and the proper course was plainly to completely eradicate it. Unfortunately, many people would not believe that we had the European lung-plague in the United States, and even the head of the Agricultural Department was skeptical. This gentleman demanded that experiments to test the contagiousness of the disease be made before he would undertake to eradicate it. As Chief of the Bureau of Animal Industry, I complied exactly with the conditions specified by the Commissioner of Agriculture. I had new stables erected upon an island where the sanitary conditions could be controlled, and had these stables nearly filled with specially selected cows from Canada, a country where such a disease had never been observed. Among those animals were placed three or four cows affected with the disease that was alleged to be contagious pleuropneumonia. The result was conclusive in the course of a few weeks. The greater part of the Canadian cows contracted pleuropneumonia, and exhibited, when examined after death, the characteristic appearance of the lungs which was long ago described by the veterinary writers of Europe. This experiment removed the doubts as to the nature of the disease, but, in the meantime, the contagion had found its way to Ohio, Illinois, and Kentucky, and we had in that occurrence a second demonstration of its communicability.

Finally, the Agricultural Department was authorized to adopt and enforce the proper measures for eradicating this malady, and

within four years from that time every diseased herd in the nine infected states had been traced and disposed of, and not a case has since been found, although nearly eight years have elapsed. This is a very brief statement of a great work such as few other countries have brought to a successful issue. It has saved thousands of animals from the sufferings incident to this disease; it has saved consumers from eating the beef made from the diseased animals, much of which had been systematically put upon the market by unscrupulous butchers; and, it has preserved the beef-supply of our country from one of the greatest dangers with which it has ever been threatened.

Another communicable disease of cattle known as Texas fever has brought intense and protracted suffering to an enormous number of animals. There is an immense district permanently infected with this contagion, and the border-line of this district extends irregularly for 4000 miles from the Atlantic to the Pacific. The cattle from one side of this line disseminate contagion; those on the other side contract the disease. As there is a constant movement of cattle, it is not difficult to understand that this 4000-mile line may be traced from one coast to the other by outbreaks of disease.

There were many mysterious features to this plague which it required much time to elucidate. For instance, the cattle which spread the disease are, themselves, apparently in good health, while the cattle that become sick do not disseminate the contagion. Again, susceptible cattle might be mingled with impunity with cattle from the infected district, providing this mingling occurred immediately after their arrival, and did not continue longer than two or three weeks; while, on the other hand, susceptible cattle that later in the season trespassed for even a few minutes on the pastures where the infectious cattle had been would contract a most violent form of the malady. Long-continued experimentation has solved these mysteries, and shown that Texas fever is caused by a microscopic parasite, which lives within the red globules of the blood. The cattle in the infected district carry this parasite permanently, and are so nearly immune to its effects that they remain in good health, notwithstanding its presence in their blood. Not so, however, with cattle which have never before encountered it. With such animals, it destroys the red corpuscles and reduces them to one-third or one-fourth the normal number. An intense fever is produced, and the creatures rapidly waste away, and die after a sickness of one or two weeks.

This micro-organism is transferred from

one animal to another by an external animal parasite, a particular species of the cattle tick, and unless this tick exists upon the cattle from the infected district they are not dangerous as disseminators of contagion. Moreover, these ticks do not pass directly from one animal to another, but they drop to the ground, lay their eggs, and it is the young ticks which get upon susceptible cattle and cause disease. This complicated process accounts for all the mysterious features which have been noted in connection with the disease.

Now, what do these investigations amount to practically? In the first place, they make it clear that if we can destroy all the ticks upon the cattle at the time they leave the infected district there will be no danger that they will cause the disease. In the second place, they indicate that the cattle in the infected district have acquired immunity by going through a mild attack of disease when young, and that if we can imitate this process with the susceptible cattle that are taken to the infected district, we will save the majority of them from a fatal attack of the disease. In the third place, they indicate that if either the Texas-fever ticks or the microparasite can be destroyed in the infected district the infection would no longer exist.

Substantial progress has been made along each of these three lines. The ticks are very hard to kill and it has been a very serious problem to find something which would destroy them without injury to the cattle. We have this year, however, hit upon a combination of mineral oil and sulphur which proves successful, and next year many vats filled with this mixture will be placed at convenient points along the border line of the infected district. The cattle will be made to swim through these vats and when they emerge they will be disinfected and free from danger.

It has also been shown that young susceptible cattle may be successfully inoculated with Texas fever during cold weather, that they will then have a mild attack and recover, and that they may afterwards be taken into the infected district without suffering seriously from the contagion to which they are there exposed. With these simple precautions, this much-dreaded disease may hereafter be prevented.

The third problem has not received so much attention; but sufficient has been done to show that these ticks may be eradicated from many sections without excessive expense. Whole counties in Virginia have been freed from infection by keeping the cattle suitably confined for one or two years. It appears that the ticks must have access

to cattle once a year in order to perpetuate themselves, and when this access is denied, the species disappears.

Another disease of cattle very common in some parts of the country is known as blackleg, because it often develops as a dark-colored inflammatory swelling in the large muscular masses of one of the limbs. For about a year the Bureau of Animal Industry has been distributing a vaccine which it prepares for this disease. Every one who uses this vaccine is required to make a report of its effects; and it is only sent to those who apply for it and state the number of cattle they wish to use it on, and the losses which they have experienced from this disease. Half a million doses of this vaccine have already been called for, and the reports show that the losses, which had previously been about 15 per cent. in a season, have been reduced to 1 per cent.

A disease which causes much discomfort and suffering to sheep is the common scabies or mange. It is extremely prevalent, and the contagion is scattered throughout the country. Even in the early stages it causes almost intolerable itching, and, later, the skin becomes greatly inflamed, the wool drops off, and the surface of the body may be almost one continuous sore. The poor animals become emaciated and finally die. The continued existence of this disease is a disgrace to our sheep-raisers, because it is very easily cured. The Department is now spreading information broadcast as to the nature of the disease and the best methods for curing it. Measures are also being taken to prevent affected sheep from being shipped from one state to another. This, it is hoped, will make it so much to the interest of sheep-raisers to cure their animals, that the disease will gradually disappear.

These are the most important diseases, to which the efforts of the federal government have been directed up to this time. Some investigation has been made of poultry-diseases, of tuberculosis of cattle and swine, and of various other maladies which I have not the time to enumerate. The government has also established a series of animal quarantine-stations at our seaports, and along the international boundary-lines to prevent the introduction of contagion from other countries. The Bureau of Animal Industry has, in addition, inspectors at the principal stockyards of the country, engaged in the meat-inspection service, who are instructed to require humane treatment of the animals.

Permit me now to invite your attention to an abuse of animals, which appears to be constant, and which affects an enormous number of individuals. I refer to the trans-

portation of animals, confined in cars for two or three days, and sometimes longer, without food, drink, or rest. In cool weather, even, this causes much suffering, but in summer it is the most outrageous and unjustifiable cruelty. It is a violation of the statutes of the United States, which prohibit the carrying of animals under such circumstances for a longer period than twenty-eight hours. But, notwithstanding the fact that this is a most barbarous practice; notwithstanding the fact that it is a violation of the law; notwithstanding the efforts of the government to suppress it; notwithstanding the existence of humane societies all over the land, these long shipments, without food, drink, or rest, continue.

For years the Department of Agriculture has periodically issued circulars directed to the railroad companies calling attention to the law and threatening prosecution in all cases where evidence could be secured. Special agents have been employed to take the time of the stock-trains and to follow them to their destination. Prosecutions have been instituted whenever a proper case could be made up. The field, however, is so large, and the number of convictions so few, that these long shipments without unloading are still, probably, the rule rather than the exception.

It appears to me that there is a great field here for legitimate humane work which the humane societies of the country have for the most part neglected. If these societies would co-operate with the Department of Agriculture in securing evidence, prosecutions could be brought in so many localities simultaneously, that the railroad companies would soon be forced to make regulations complying with the terms of the law. We can only begin to realize how much suffering the enforcement of this law would prevent, when we consider that six million head of cattle, a still greater number of sheep, and not less than twenty million swine are shipped to market each year.

The humane societies can also do much to further the cause of humanity by proper efforts for the education of the public as to the care of animals, the hygienic and sanitary requirements, the common diseases, and the first principles of treatment. I am aware that efforts have been made in this direction, but much of the literature distributed with their authority which has come to my attention has evidently been prepared by persons ignorant of the subjects upon which they have written, and as a result the teachings were absurd and misleading. Such literature injures the societies which issue it, and, also, injures the cause for which the humane societies were established. In my

hopeful movements, I look forward to a time, distant no doubt, but which will nevertheless come, when your societies will feel strong enough to drop sensationalism, when their teachings will be free from bias and exaggeration, and when they will work shoulder to shoulder with the great humane organizations of the country—the medical profession, the veterinary profession, the biologists, the universities, the Bureau of Animal Industry—with the common object of encouraging the investigation and scientific management of disease and the suppression of cruelty and abuses, giving the first thought to mankind, but never for a moment forgetting the lower animals.—*Phil. Med. Journal.*

Removal of Superior Cervical Ganglion for Malignant Glaucoma

Abadie (*Bul. méd.*, No. 55, p. 670) described before the Paris Ophthalmological Society a case of hemorrhagic glaucoma in a patient who had already lost one eye by enucleation for the same thing, and whose suffering led him to beg the author to remove this one likewise. Instead, Abadie removed the superior cervical ganglion of the sympathetic on that side, and obtained cessation of all the symptoms slowly and progressively, even to clearing up of the media. Volude had removed the other eye and stated that he had noticed remissions of similar attacks and would withhold full credit from the resection until more time had elapsed, as it was now but fifteen days since the operation. H.

Phlebitis of the Leg in Pneumonia

J. M. Da Costa (*Phil. Med. Jour.*, Vol. II, No. 11, p. 519) calls attention to a complication of pneumonia seldom met with, in the shape of phlegmasia alba dolens, or phlebitis of the leg. A history of two patients is detailed; in one case the veins of both legs were implicated, while in the other it was confined to one leg. The writer also refers to a third case seen in 1893, both legs being affected. It is remarkable that in two of the cases the disease was double-sided. Like the phlebitis of typhoid fever, it comes on late in the course of these diseases, more as a consequence or sequel than as an integral part. The prognosis is favorable, though recovery is tedious. From literature obtainable by the writer, a number of cases have been recorded, several of which have proved fatal. Autopsy showed the lesions to be firm, whitish, fibrinous coagula, in many places adherent to their walls. Pulmonary embolism is the most likely cause of death.

L.

ADDRESS

UNDEFINED FACTORS IN THE SPREAD OF DISEASE

Delivered before the Chelsea Clinical Society on Oct. 18, 1898

By J. FOSTER PALMER, L.R.C.P.Lond., M.R.C.S.Eng.,
President of the Society.

Gentlemen—I must first take this opportunity of thanking you for the honor you have done me in selecting me to be the first President of this society. A man can have no greater honor than to be thus chosen by those best qualified to judge of his shortcomings, viz., those of his own profession. I can only hope, with the help and support of the vice-presidents, committee, and secretary, that the said shortcomings will not be conspicuous during my year of office.

Secondly, I must express an ardent and somewhat confident hope in the future of the society. May it be useful and permanent. A society, it is true, may be useful though temporary. But I am not sure that now local societies may not have before them as long and useful a career as central ones. Decentralization is one of the marks of progress of the age. There is another factor which makes for the stability of this society. It is largely composed of general practitioners, and there can be no doubt to those who watch the signs of the times that the future of medicine is in the hands of the general practitioner.

The physician, as such, must sooner or later become extinct. The pure general consulting physician is already almost a rarity. "Send for a specialist," is now the almost universal cry. It is only the antique type of patient who thinks of calling in a "physician." The very word is barbarous: faulty in its derivation and its root obsolete or degraded. We do not "physic" people now in the old sense. If a "physician" means anything it means a student of "physics," not of "physic," a slang word for drugs. We need a new word derived from the Latin "medicus," or, better still, the Greek *κλινικός*. The physician has done good work, from the time of Linacre, of Caius, and of Harvey, to the present, but his days are numbered. So great has been the progress of surgery during the last thirty years in comparison with that of medicine that we have now almost come to look upon the physician as the lame and halting follower of the surgeon. One by one, too, his provinces are invaded. The great abdominal cavity has practically gone

over to the surgeon; the thorax and the nervous system are in the hands of the specialist; the investigations on fevers are largely carried on by the bacteriologist; while the treatment of diphtheria often falls to the throat specialist, who is generally a surgeon. There will be nothing left. If anything is left it will be swallowed up by the Roentgen rays, which will become another specialty, and will, I have no doubt, do much to bring medicine once more abreast of surgery. Long before the close of the coming century the profession will consist mainly of general practitioners and specialists, with a few operating surgeons. The bacteriologists will probably be outsiders. Meanwhile, it remains for us, individually as men and collectively as a society, independently of any shuffling of cards within the profession, to do our best to maintain the high tone and standard which has always, as a rule, characterized its relations with the world outside.

And, thirdly, I have to bring forward some subject of general interest, and, if possible, of usefulness also, to the members of the society. We are a *clinical* society. We have elected, and rightly so, to base our researches primarily on the visible manifestations of disease which we see before us at the present time and in the human subject. But we need not, and we must not, neglect as collateral branches the great records of the past, which show us the course of disease on a larger scale, or the experiments of the laboratory, which show it to us under changed surroundings. These, however, are secondary; our *primary* object is to know the effect of disease, not on other people in other times, nor when cultivated in bottles or on potatoes, but on the particular individual subject before us. For this purpose we must know something of the patient besides his disease. Each patient we see has a distinct pathological individuality; our prognosis of any single case depends more on our knowledge of the life, habits, surroundings, and hereditary tendencies of the patient than on the character of the disease itself. "I know," says the old doctor in one of Oliver Wendell Holmes' works,—*"I know the families that have a way of living through everything, and I know the other set that have the trick of dying without any kind of reason for it. I know the folks that think they're dying as soon as they're sick, and the folks that never find out they're sick till they're dead."* For this reason, valuable as are hospital records and observations for making out statistics of mortality and the study of morbid anatomy, there are matters of vital importance to a true study of medi-

cine which can only be observed in private practice.

We are sometimes told that our only duty as students of medicine is to observe and collect facts and tabulate results; that we must have no ideas and formulate no hypotheses. I venture to say that this is absolute humbug. No man, woman, or child, ever yet took the trouble to collect facts unless he had some theory to verify. It is this that gives him his interest in the work. The idea may be wrong, it may be changed in the course of the investigation; but it has been worked out in the mind before the investigation commences. Do you suppose Harvey would have made his numerous experiments, Hunter have dissected his lions and tigers, Jenner have spent his time inoculating with vaccinia, or Lister tried his antiseptic treatment, if they had not already thought out some hypothesis which they hoped to prove, but might disprove? There is no dearth of facts. They are as plentiful as blackberries. There are tons of them. What we want is the intelligence to weigh, to interrogate, to classify, to examine, and get at the relative value of them. "Non numerandæ sed perpendendæ sunt observationes." There may be men who are fit for nothing better than to collect facts for others to work upon. If so, let them do it. But lack of brain-power is not a common complaint in our profession; and if we have brain-power it is our duty to use it. We have, all of us, a valuable store of knowledge and experience, the outcome of daily observation, which we use for our own and our patients' benefit. It is almost criminal not to attempt to make some further use of it for the public good and for future generations. This society affords us one opportunity of doing so.

In discussing some of the uncertain factors in the spread of disease I must confine myself to three, the extent of whose influence is still doubtful and undefined. These are: (1) pathogenetic evolution; (2) retrograde metamorphosis; and (3) abnormal objective receptivity. Contagion and infection, in view of the researches of bacteriology, can no longer be considered doubtful causes and can only be discussed in their relation to the foregoing. Practically all diseases may be considered communicable. Inoculation, contagion, and infection merely imply different degrees and conditions of communicability. With the leprosy bacillus actually before our eyes we can no longer doubt the wisdom of the great Hebrew legislator in looking upon leprosy as a contagious disease and enforcing disinfection and quarantine by stringent laws. This is only one of numerous in-

stances in which the opinions of the ancients, having been discarded and ridiculed for centuries, have been found to be true ones after all. What appears to be ignorance or superstition is often merely truth expressed in metaphorical language. When Herodotus tells us that Venus inflicted a loathsome disease on the Scythians for violating her temple we have not much difficulty in the diagnosis, although we with our supposed superior wisdom should express it differently. Perhaps, after all, the Greeks knew as much of the pathology of syphilis as we do. Whether they were acquainted with bacteria evidence does not show. At any rate, antiseptic treatment was not unknown to the Romans. It is alluded to by Virgil in the third book of the *Georgics*:—

"Aut tonsum tristi contingunt corpus amurca,
Et spumas miscent argenti, et sulfura viva,
Idæasque pices, et pingues unguine ceras,
Scillamque, elleborosque graves, nigrumque
bitumen."

Lib. iii, ll 448-451.

We find mentioned in these four lines (besides 'squill and black hellebore) the bases of nearly all the antiseptics of the present day, olive-oil saturated with some substance not stated, nitrate of silver, sulphur (probably sulphurous acid), tar, and paraffin, with lard and wax for ointments. These were used as protectives against disease. For what reason if not to prevent the ingress of bacteria?

During the plague of London in 1665 the bacterial origin of the disease was distinctly anticipated, and, as usual, ridiculed, as you may see on reference to Defoe's *Journal of the Plague*.¹ The same has occurred much more recently. I have a copy of part of the evidence given before the Commission appointed to inquire into the sanitary state of the army in India in 1861. One of the experts examined, Surgeon-Major Wallich, a well-known microscopist, said he believed that the causes of malaria, fevers, dysentery, and cholera (which he defined as minute plants) might be made quite visible by the microscope. At this suggestion Sir Ronald Martin, one of the members of the Commission, walked out of the room, because, as he afterwards confessed to the witness, he thought the latter was talking "nonsense." The "nonsense" of forty years ago is thus the accepted science of to-day, while some of the discarded hypotheses

¹ "Which I look upon with contempt . . . likewise the opinion of others who talk of infection being carried on by the Air only, by carrying with it vast numbers of Insects, and invisible creatures, who enter into the Body with the Breath, or even at the Pores with the Air, and then generate or emit most acute (*sic*) Poisons or poisonous Ovae (*sic*), or Eggs, which mingle themselves with the Blood, and so infect the Body."

of antiquity are found to contain a substantial basis of truth.

Let us not, therefore, discard everything that is old simply because it is old or grasp at everything that is new simply because it is new. There is very little real evidence to show that the human intellect is better now than it was in the time of Homer. Our morals are better (I hope), our tools are better, and we have more knowledge and experience in the use of them, but I am afraid this is all. We are naturally elated at our progress in the comparatively new field of bacteriology, but we must rejoice with trembling. Twenty years of further progress in this field will shed a far different light both on etiology and treatment from that we now see by. With regard to the latter it is hardly possible that the study of therapeutics will ever resolve itself into a long list of immunized sera. It is more probable that the chemical products by means of which immunization is brought about will be known and manufactured by artificial means, and that thus therapeutics will become an exact science instead of an empirical art. With regard to the former there is also much to be learnt, and the three factors referred to above—(1) pathogenetic evolution; (2) retrograde metamorphosis, and (3) abdominal objective receptivity—are only types of a large number of unknown or imperfectly known conditions under which the pathogenic bacteria increase and multiply, effect an entrance into the human body, and when there convert some of its natural organic products into deadly poisons. To keep ourselves constantly abreast of the latest researches in this department of science will be one of our most important objects.

1. *Pathogenetic Evolution.*—The ancient belief in the possibility of spontaneous generation in the organic world has long ago died a natural death and has been followed by a belief that every organism is produced by one like itself in every particular, or at least by one of the same species. This view, however, has been shown by the researches of Charles Darwin to be true only in part. It is now generally admitted that generation is progressive and that the more complex organisms have been gradually evolved from simple ones. Even if evolution is not a complete solution of organic life, but is subject, as I believe it is, to exceptions and reversions, it is still a force to be reckoned with. It is therefore natural that when we come upon a comparatively new branch of biological study like that of bacteriology we should ask ourselves what part, if any, is played by evolution in the history and progress of disease. Have the microphytes

of all the diseases flesh is heir to come down in an unbroken line of descent or are they traceable to some simple germ of prehistoric ages when man's only diseases were the wounds received in battle with those extinct monsters he has now exterminated? And what relation in the biological scale do these organisms bear to one another? Are those most destructive to life to be considered higher or lower in the scale than those which only cause inconvenience? Are plague and cholera, e. g., higher types than influenza, small-pox than chicken-pox? These questions must be answered before medicine is an exact science. It is of the utmost importance that we should know whether the micro-organism of influenza (if there is one) can ever become evolved into the organism of cholera or of plague; whether the microphyte of syphilis can under any special conditions, or after an innumerable succession of slight variations, evolve itself into that of leprosy or of cancer; whether any of the bacteria found in ordinary membranous or herpetic sore throat may, with favorable surroundings, develop either in the same patient or during the course of an epidemic in other patients the well-known KlebsLöffler bacillus of diphtheria.

1. It is among the records of past epidemics that we must first look for evidence of evolution in disease, for there only can we trace it over sufficiently long periods of time. The oldest known disease is plague. There is no doubt that plague has existed in the world more than 5000 years, and it is still endemic in Egypt and the adjacent parts of Asia and Europe. The earliest epidemic on record is one mentioned by Manetho, the Egyptian historian, as occurring in Egypt in 2500 B. C. From a very early period, in nearly all the ancient writers, there are accounts of constantly recurring epidemics bearing the same general features in the same geographical area. We find them in the Old Testament, in the "Iliad" of Homer, in Ovid's "Metamorphoses" (vii), in Plutarch's Lives, in Thucydides, in Livy, in Strabo, in Tacitus, and in Pliny. When we come to the plague of Athens, described by Thucydides, and that of the sixth century, by Gibbon, there is no longer any doubt that we are dealing with the same disease that is still endemic in Turkey and in Egypt and was lately so prevalent in Hong Kong. "The greater number," says Gibbon, "were surprised by a slight fever. The same, the next, or the succeeding day, it was declared by the swelling of the glands, particularly those of the groin, of the armpits, and under the ear, and when these bubbles or tumors were opened they were

found to contain a coal or black substance of the size of a lentil." Translate this into modern bacteriological language and we have almost an exact counterpart of the most recent descriptions of the same disease. "Plague," says Kolle in a paper on the plague bacillus in the *Deutsche Medicinische Wochenschrift* of March 4, 1897—"plague is a polyadenitis, the glands being the starting place of a septicemia." "Black pustules or carbuncles," says Gibbon. "Carbuncles, pustules, spots, and petechiæ," says Aitken, almost word for word. Thus we appear to have been dealing with the same disease for two thousand, probably for four or five thousand years. If evolution were the law of pathological life we should expect, considering the short life-history and rapid generation of micro-organisms, to see some change of type in disease after so long a period. The history of the plague does not seem to favor this view. The only difference appears to be that it is less fatal than in the third, sixth, and fourteenth centuries, when it is said to have carried off one-fourth of the population of the world. This is clearly the result of improved sanitation.

Let us take another standpoint. If plague is always the same disease whenever we find it, is the general type of disease changing and is the plague gradually giving way to some other pathological manifestation? Since the seventeenth century it has been practically extinct in the British Isles, although for a thousand years it had been constantly epidemic if not endemic,² and during these last two centuries it has been steadily retiring from the continent and going back to its original haunts in Turkey and Egypt. It is possible that plague and cholera may have existed side by side, as they do now, from the foundation of the world; but it appears as if the position formerly held by the former had during the last hundred years begun to be occupied by the latter. We need not accept without question the statements of all the ancient writers, but we cannot deny their knowledge. The writer of the "Iliad," who must have lived 3000 years ago, was a better anatomist than his translator Pope, who lived in the last century. Homer never confused nerves with tendons as Pope did in the description of Achilles' operation on the dead body of Hector.³ In Walford's "Chronology of Pestilences" there is a list of about 1700 epidemics beginning 2500 B. C. and ending with the plague in Persia and Alaska in 1882. Of these, the large

majority (between 900 and 1000), 54.47 per cent., refer almost certainly to the plague, the rest being made up of epidemics of uncertain type, of dysentery, leprosy, throat-affections, venereal disease, intermittent fevers, small-pox, and other epidemic fevers, and in the later centuries of influenza, typhus fever (including typhoid fever), and cholera. In the twenty-five centuries B. C. the proportion of plague to other diseases is 137 to 18, 88.38 per cent. In the first five

TABLE I.—Plague

Periods	Total number of epidemics	Number of plague-epidemics	Percentage of plague-epidemics
2500 B.C.—0 A.D.	155	137	88.38
0—500 A.D.	88	61	69.43
500—1000 "	136	99	72.79
1000—1200 "	51	37	72.54
1200—1200 "	38	28	73.15
1200—1300 "	54	46	85.18
1300—1400 "	112	55	49.1
1400—1500 "	113	82	72.56
1500—1600 "	190	127	66.84
1600—1700 "	240	144	60.0
1700—1800 "	295	66	22.37
1800—1882 "	228	44	19.29
Totals.....	1700	926	54.47

centuries A. D. the proportion is 61 to 17, or 69.43 per cent.; in the five following centuries it is 99 to 37, or 72.79 per cent.; in the eleventh century 37 to 14, or 72.54 per cent.; in the twelfth century 28 to 10, or 73.15 per cent.; in the thirteenth century 46 to 8, or 85.18 per cent.; in the fourteenth century (including, of course, the Black Death, which devastated so large a portion of the world and besides which all other epidemics sink into insignificance) 55 to 57, or 49.1 per cent.; in the fifteenth century 82 to 31, or 72.56 per cent.; in the sixteenth century 127 to 63, or 66.84 per cent.; in the seventeenth century (which includes the Great Plague of London) 144 to 96, or 60 per cent.; in the eighteenth century (including the plague of Marseilles, the disease being now practically extinct in Great Britain

TABLE II.—Cholera

Period	Total number of epidemics	Number of cholera epidemics	Percentage of cholera epidemics
1800—1882 A.D.	228	52	22.8

and Ireland) 66 to 129, or 22.37 per cent.; and in the nineteenth century, during which cholera more than once established itself as a European epidemic, 44 to 184, or 19.29 per cent. (Table I). During this century the proportion of cholera was 52 to 176, or 22.8 per cent. (Table II). The proportion of typhus fever since the year 1500 has been 7.86 per cent. (Table III), and of influenza altogether 8.92 per cent.; the only century showing any considerable proportion of in-

²One of the first records of plague on an extensive scale in the British Isles was in 665 A. D., the last in 1665 or 1667 A. D., a plague-wave of just 1000 years. On the continent it began earlier and receded later.

³X, 395-404, Pope, xxii, 495-510.

fluenza is the eighteenth, coming between the decline of plague and the advent of cholera, where it is 50 to 245, or 16.94 per cent. (Table IV). These figures, again, are hostile to any belief in a continuous line of pathogenetic evolution, although cholera seems to have stepped into the place formerly occupied by plague. But evolution may take another form. If the general type of disease does not change from century to century it is possible that a series of shorter changes

TABLE III.—*Typhus Fever*

Periods	Total number of epidemics	Number of typhus-fever epidemics	Percentage of typhus-fever epidemics
1500—1600 A.D.	190	15	7.89
1600—1700 "	240	15	6.25
1700—1800 "	295	19	6.44
1800—1882 "	228	26	11.4
Totals	953	75	7.86

takes place and that the milder epidemics may evolve, in the course of a few months or years, under favoring conditions, into the more fatal ones? It has been constantly observed, both in ancient and modern times, that the great destructive plagues have been preceded by minor epidemics of catarrh, influenza, measles, and diseases of a less virulent type. Thucydides, a careful observer, says that during the plague of Athens other diseases declined. "None of those diseases to which they were accustomed afflicted them at this time, or whatever there was ended in this" (Hist., lib. ii, 51). More recent observations confirm this. The fatal Black Death of the fourteenth century was preceded by a long succession of outbreaks of influenza and other less fatal epidemics.⁴ Of the nineteen epidemics recorded by Dr. Theophilus Thompson in the "Annals of Influenza" seventeen at least were followed by epidemics of a more fatal character: those of 1510, 1557, and 1580 by plague; that of 1658 by a series of continued fevers until 1664; then by malignant fever (probably typhus fever), and this by the Great

TABLE IV.—*Influenza*

Period	Total number of epidemics	Number of influenza epidemics	Percentage of influenza epidemics
1700—1890 A.D.	295	50	16.94

Plague of 1665; that of 1675 by small-pox and dysentery; that of 1710 by plague; that of 1729 by typhus fever, small-pox, and cholera; that of 1738 by diphtheria; that of 1743 by typhus fever; that of 1758 by scar-

let fever; that of 1762 by dysentery; that of 1775 by scarlet fever and diphtheria; that of 1803 by typhus fever; those of 1829, 1831, 1833, and 1837 by Asiatic cholera; also that of 1847 (Table V). That of 1829 is very remarkable; for cholera, having traveled from India to the south of Russia in 1823, patiently waited seven years for the influenza epidemic, and then immediately spread through the whole of Europe, following practically the same route. Coming to more recent times, the epidemic of influenza in Iceland in 1862 was followed by an extremely virulent epidemic of pneumonia the following year. These facts are striking if evolution could be otherwise established, but alone they only to point to a bare possibility.

2. Then arises the question, Does evolution ever take place in the progress of a single case? This clinical observation must teach us, and it is one which may well be borne in mind by those who place their experience at the disposal of this society. My own experience leads me to conclude that it is certainly not the rule and that the ex-

TABLE V.—*Sequences of Influenza*

Date	Followed by	Date	Followed by
A.D.		A. D.	
1510	Plague	1743	Typhus fever.
1557	"	1758	Scarlet fever.
1580	"	1762	Dysentery.
1658	Continued fevers until 1664.	1775	Scarlet fever; diphtheria.
"	Malignant fever (typhus?) in 1664	1803	Typhus fever.
"	Great Plague of 1665.	1829	Asiatic cholera.
1675	Small-pox; dysentery.	1831	"
1710	Plague.	1833	"
1729	Typhus fever; small-pox; cholera.	1837	"
1738	Diphtheria.	1847	"

ceptions may be explained in other ways. The very rarity of the occurrence makes each instance of it a subject of special observation. When we have once made up our minds that a certain doubtful case of sore throat is not one of diphtheria we are not much disturbed by the thought that it may develop into diphtheria later. It is possible, of course, that the diphtheria bacillus may be engrafted on a sore throat of some other description, but this seems to be rather unusual. The same remarks apply to doubtful cases of scarlet fever, small-pox, typhus fever, and typhoid fever. Some years ago I saw a case of soft chancre under the prepuce which had been neglected for two years. Amputation became necessary and microscopic examination amply confirmed the diagnosis that the case had now become one of epithelial cancer. The patient died shortly after from a recurrence of the disease. Sir James Paget, who must have had more experience of cancerous tumors than most men, had never seen a case before. The chancre, by reason of its

⁴The first recorded general epidemic of influenza was in 1173. Besides numerous instances recorded in history of plague being preceded by epidemics among the lower animals it is found that in the present day, whether in Asia or Africa, it is usually preceded by an enormous mortality among the rats.

chronicity, had become a suitable soil for the cultivation and growth of the cancer microphyte. The rarity of such cases makes it highly improbable that they are due to any general pathological sequence.

There is, however, another class of cases in which we might be led to expect from the frequency of their occurrence a more natural order of transition from one disease to another. We have spoken of influenza being followed by other epidemic diseases in the same geographical area, but pneumonia following a specific attack of influenza in the same patient we are all familiar with. The zymotic nature of pneumonia is now generally admitted⁵ and its micro-organism is known. The influenza epidemics of 1891 and 1892 were especially fatal on account of pneumonic complications. Clinical observation here seems to indicate a special and direct tendency for one zymotic or epidemic disease to run into another of a more virulent type. Whether or not this is an instance of micro-organic evolution can only be finally decided by observation in the bacteriological laboratory. On the other hand, has not clinical observation constantly shown us that in the greater epidemics, whether of plague or cholera, a steady diminution of intensity is the rule? From a mortality of 90 per cent. at the onset of the epidemic it gradually falls to 10 per cent. or less. Is not this an upside-down kind of evolution—degradation rather than progress? In the case of specific attacks of zymotic disease, too, the tendency is, with the exception noted above, to run on to what we consider to be lower forms. We may be wrong in our estimate of the relative biological importance of diseases or of the correct position in the social scale of the various bacteria, but we naturally look upon scarlet fever as a higher type of disease than its sequelæ, nephritis, otitis, stomatitis, rheumatism, etc.; typhus fever and typhoid fever than pneumonia; measles than bronchitis; small-pox than ophthalmia or purulent absorption. Thus, whether we consider the variations of epidemic disease from century to century, or those of a single great epidemic from week to week or from month to month, or those which occur in the course of an attack of zymotic disease in the individual patient from day to day, retrogression appears to be the rule, and evolution, contrary to the general order of organic nature, the exception.

3. We have now to inquire what bacteriology has to say on the subject. At the

threshold of this inquiry we are met by the very important experiments of Pasteur on the somewhat similar organisms of mould and yeast. After a long series of experiments and counter-experiments by various observers it has been conclusively demonstrated that it is not possible by any methods of selection or changes of environment through any number of generations to cause mould to evolve into yeast or yeast into mould. These experiments, however, although useful as a standpoint, are by no means conclusive on the general question. If I understand evolution at all it would be equally impossible, however many millions of years were allowed for the experiment, to turn man into an ape or the ape into a man. Yet this would be no proof that they had not the same ancestor. Nor should we with any greater facility breed a horse from a donkey or *vice versa*. Yet no one now doubts that the horse and the ass are both descended from the extinct hipparion. That there exists under certain conditions a tendency, limited perhaps in extent, to some evolutionary process seems to be shown by the experiments which have been made on the typhoid (Eberth-Gaffky) bacillus and others. These bacilli—the typhoid bacillus, the *Bacillus enteritidis* of Gärtner, and to a still greater extent the *Bacillus coli communis*—are found to increase in virulence in passing through the bodies of animals. In the last-named, according to Dr. Sidney Martin's experiments (referred to in the Croonian Lectures at the Royal College of Physicians of London), evolution seems to proceed in a regular mathematical series, the same effects being produced at first by 6 cc. of a certain culture, then by 4 cc., then by 2 cc. (then by 1 cc.?) then by 0.5 cc., then by 0.25 cc., and then by 0.1 cc. Many observers, too, he says, have noticed not only an increase in the numbers, but also an exaltation of this bacillus in the course of a case of typhoid fever. The experiments of Marmorek on the *Streptococcus pyogenes* point to precisely the same conclusion. The pathological powers of this organism were greatly exalted "by alternately growing it in guinea-pigs and in a medium made of human blood-serum and bouillon."⁶ The virulence of the typhoid bacillus was augmented in like manner, but less rapidly than the *Bacillus coli*. Beginning with 4cc., the same effect was produced at the thirteenth inoculation with 1-12 cc. and at the sixteenth with half a platinum loopful (whatever quantity that may represent) of an agar-culture. None of the ordinary laboratory cultures of the ty-

⁵ In a recent trial one witness spoke of an attack of pneumonia being useful in "setting up the constitution." This is probably only a popular and somewhat unscientific way of expressing the fact of its protective influence against a second attack.

⁶ *Brit. Med. Jour.*, June, 1898, p. 1579.

an animal until they had been rendered virulent; in other words, until they had undergone the process of evolution in the bodies of certain animals and under certain special conditions.

There is, therefore, no doubt that, independently of any increase of the number of bacilli in the serum, the later generations of these organisms have a greater functional activity than the earlier ones; and functional activity is in organic nature generally the prelude to structural development. "It is manifest," says Mr. Herbert Spencer, "that there can be no variation of structure but what is directly or indirectly consequent on variation of function."⁷ "Function is from beginning to end the determining cause of structure."⁸ At the same time they seem to exhibit a very strong tendency toward reversion to the earlier types. This, I think, is as far as the results of bacterial research will at present carry us. Whether microphytic life goes on thus throughout the ages in a series of advancing and receding cycles of short duration, or whether it has an earlier and a later history, one preceding its least virulent and one succeeding its most virulent stage, must be left to occupy the minds of future observers. At present, observation has not extended beyond these two points. There are two distinct lines along which this extended life might proceed. In the first place, the micro-organism might commence its existence in a low form of pathogenic life as the organism of some mild catarrhal or local affection and evolve into that of one of the greater epidemics. And, secondly, it might begin its career as one of the harmless or useful bacteria acquiring pathogenic functions at a certain period of its career, and losing them again as it passes on to higher forms of life. Major Giles, I.M.S.,⁹ in a paper on the "Micro-organisms of Pneumonia," goes so far as to say that "the difference between the organisms of disease and those found everywhere in earth and water are so small that it must be conceded that they cannot have diverged far from some common parent stem." The evolutionary theory certainly receives some support from the numerous instances in which the greater epidemics have been preceded by epidemics of a milder character as well as in many cases by epidemics among the lower animals. At the same time it seems to be negatived by the remarkable permanence of type which is found to have extended over thousands of years as well as by the extreme rarity of any change of type in the history of indi-

vidual cases. The particular instance of the organism of influenza developing into that of pneumonia is hardly conceivable in view of bacterial research, for the organisms belong to different species. That of influenza, which, however, has not yet been identified with any degree of certainty, is a bacillus, while that of pneumonia is a coccus. This is a gulf we shall hardly be prepared to bridge over; certainly not within the limits of a single case. When we remember, too, that the symptoms of influenza have not yet been definitely induced by cultures of the bacillus and that these symptoms have actually been induced experimentally by inorganic gases¹⁰ it seems at least possible that influenza may not necessarily be in every case of bacterial origin, but may sometimes be the result of chemical products generated by other means. If this is the case it would perhaps explain the constant reference both in ancient and modern times to earthquakes and volcanic eruptions and the presence in the air of gases popularly called "mephitic vapors" as preceding pestilential outbreaks. There is no doubt that influenza does precede many of the greater epidemics, but this is no proof that the pathogenic microbes are continuous. An attack of influenza, whether of bacterial origin or not, would, by its depressing influence on the nervous system, render the subject of it less resistant to the attacks of zymotic disease. Thus the direct causes of influenza would be the indirect causes of the epidemic which follows it. To this category, as we have already seen, pneumonia undoubtedly belongs. We are forced, therefore, to the conclusion that the causes of pneumonia following attacks of influenza are to be looked for in the increased receptivity following the latter disease rather than in any direct succession of micro-organisms, and that however tempting and plausible may seem the hypothesis of pathogenetic evolution it is not, in the present state of our knowledge, supported by any trustworthy proof.

II. *Retrograde Metamorphosis.*—When we come to the subject of the decomposition of animal and vegetable matter as furnishing a nidus for the growth and development of pathogenic organisms we are on surer ground. Its influence on the spread of disease, indeed, has in recent times been strenuously denied, and so has the protective influence of vaccination. Such "argumenta ad ignorantiam" may be good enough for politicians, hardly for scientific men. In

⁷ Principles of Biology.

⁸ Ibid., p. 167.

⁹ *Collective Investigation Record*, Vol. II, p. 106.

¹⁰ Many years ago Dr. Prout produced all the symptoms of influenza with seleniuretted hydrogen, and Berzelius produced a severe attack in himself lasting fifteen days and paralyzing the olfactory nerve by a small bubble of the same gas.

this instance, past history, clinical observation, and bacterial research all agree in affirming some relation of cause and effect between the presence of decomposing organic material in air and water and the prevalence of zymotic disease.

1. All nations and races, whether savage or civilized, ancient or modern, have made careful provision for the disposal of the dead. This is a universal recognition of the evil effects following the exposure of decomposing organic matter. The onset of epidemics, too, from time immemorial, has always been referred to the period of autumn, when the ground is covered with fallen leaves and decaying vegetation. We may go back to Homer. We find in the twenty-second book of the "Iliad:"

"Ὅν τε κύν' Ὀρίωνος ἐπικλῆσιν καλέονσι·
 Λαμπρότατος μὲν ὄδ' ἐστὶ, κακὸν δέ τε σῆμα
 τέτυκται,
 Καί τε φέρεי πολλὸν πυρετὸν δειλοῖσι βροτοῖσιν.
 X 29, 30, 31."

Everything goes to show that Homer was an accurate observer. Virgil also. In the third book of the Georgics we have the same fact expressed:

Hic quondam morbo cœli miseranda coorta est
 Tempestas, totoque autumni incanduit æstu,
 Et genus omne neci pecudum dedit, omne ferarum;
 Corrupt lacus; infecit pabula tabo.

III, ll. 478-481.¹⁸

It is again repeated by another great observer, Shakespeare, in his "Henry V.:"

A many of our bodies shall no doubt
 Find native graves; upon the which, I trust,
 Shall witness live in brass of this day's work;
 And those that leave their valiant bones in France
 Dying like men, though buried in your dunghills,
 They shall be fam'd; for there the sun shall greet them,
 And draw their honors reeking up to heaven;
 Leaving their earthly parts to choke your clime,
 The smell whereof shall breed a plague in France.
 Act IV, sc. 3.

The consensus of opinion is striking. Indeed all observation, ancient and modern, tends to show that this view is well founded. The greater epidemics since the world began have always shown a decided preference for the autumn and late summer or else they have followed close upon large battles and extensive military campaigns, when the air has been impregnated with the emanations from the dead bodies of slaughtered human beings and animals of war, or after

epidemics among the lower animals, vertebrate or invertebrate. The decomposing material may proceed from dead horses or cattle, rats or locusts. Koch found that a large mortality among the rats was always looked upon as a certain precursor of the plague, whether in Africa, India, or China.

The Great Plague of London commenced in November, 1664, and after remaining quiescent throughout the winter reached its maximum degree of virulence the following autumn. More than half the entire number of fatal cases took place during September and the first two weeks in October. The same sequence of events took place at the plague of Moscow. It was first introduced in November, 1770, remained inactive during the winter, and reached its climax in September, 1771, the mortality at one time being 1000 a day. The great cholera epidemic in this country ran a similar course. It began to take on an epidemic character in October and November, 1848; declined, but was not extinct, during the winter, and reached its highest rate of mortality the first week in September, 1849, during which 2000 deaths occurred in London. In the first cholera epidemic, too, that of 1832, by far the greatest number of deaths took place in September. Towards winter, when the temperature is lower and decomposition less active, epidemics almost invariably decline. The more recent epidemics of influenza, even, have been most active in the milder winters, being apparently postponed for a time when the weather is particularly severe. A low temperature means a partial arrest of decomposition. It would seem, therefore, that whatever may be the organisms by means of which disease is conveyed the condition of the atmosphere most favorable to their development and transmission is that resulting from the presence therein of those proximate constituents of organic life which are formed during the retrograde metamorphosis of animal and vegetable tissue. Under no other conditions does this process take place upon so extensive a scale as on the field of battle. Epidemic disease, both among human beings and animals, has always followed in the wake of war. It is not that pestilence is a necessary sequence, but that favorable conditions are brought about for the spread of any epidemic which may be latent. When from the carnage of battle or from any other cause the atmosphere has been impregnated with decomposing animal matter it forms a suitable nidus for the cultivation and development of any pathogenic organisms which may chance to be introduced into it. This took place in this country during the wars between Charles I and the Parliament in the

¹¹ "Orion's dog (the year when Autumn weighs),
 And o'er the feeble stars exerts his rays;
 Terrific glory! for his burning breath
 Taints the red air with fevers, plagues, and death."
 Pope's version, Book XXII, ll. 39-42.

¹⁸ "Here, from the vicious air and sickly skies,
 A plague did on the dumb creation rise:
 During th' autumnal heats th' infection grew,
 Tame cattle and the beasts of nature slew,
 Pools'ning the standing lakes and pools impure,
 Nor was the foodful grass in fields secure."
 Dryden's version, III, ll. 721-726.

seventeenth century, and when, a few years later, in 1665, the plague was introduced, it raged with excessive violence. The plague of Copenhagen, too, in 1712, followed the invasion of Denmark by Charles XII of Sweden. And in those regions where certain zymotic diseases are always endemic or latent—i. e., in the vicinity of their natural geographical distribution—war is almost invariably followed by an immediate outbreak. In addition to the accounts given in ancient history, which are too numerous to mention, we find that in the present century every attack of Russia upon Turkish territory, which may be considered the natural home of the plague, has been followed by an epidemic of the disease. The Crimean War was no exception. Nor was the Russo-Turkish War of 1877-78. On the latter occasion plague broke out at Astrakan, in the Caucasus, and at several places on the Volga; and it was thought by many that we were then within measurable distance of a European outbreak. In this country no prolonged military operations have taken place since the latter part of the seventeenth century. Since the reign of James II there has been no civil war except the short-lived rebellions of 1715 and 1745. The cessation of civil war was exactly coincident with that of the plague.

2. It is hardly necessary to appeal to modern clinical experience to confirm this great consensus of opinion. The dangers of overcrowding are practically recognized by all. And overcrowding is, after all, simply the presence in the atmosphere of an increased proportion of the decomposing products of animal exhalations forming a nidus for the propagation of pathogenic bacteria. If the modern open-air treatment of phthisis has any meaning, at all it means that even the tubercle bacillus, except in advanced cases of phthisis, is powerless for evil if it be not sufficiently supplied from the air with the products of retrograde metamorphosis to form a suitable soil for its cultivation. The dangers of the post-mortem room can only be accounted for in the same manner. Decomposing organic tissue is inhaled by the lungs, and any microbes introduced through a wound in the skin may find in the blood the necessary nidus for their growth. This condition of susceptibility may be transferred, as is well known, to a puerperal or surgical patient either through the exhalations of the lungs or from contact with the skin. The explanation in all these cases is the same. I have known one member of our profession who, without the least abrasion of the skin, was always attacked with erysipelas after being present at a necropsy, whatever might have

been the cause of death. The entrance of decomposing material into the lung was sufficient to excite bacterial growth.

3. The experiments of the laboratory appear in this case fully to bear out the conclusions both of ancient history and of modern clinical experience. The fact stated by Dr. Arthur Ransome¹³ that tubercle bacilli are killed by daylight and fresh air means, in other words, that they are unable to grow without the presence of decomposing organic tissue in the atmosphere. His most successful cultivations were made on the condensed moisture of the breath both of healthy and phthisical people, of the air of a wine-cellar, of that of a weaving shed in Blackburn, and of that in the cellars of some insanitary cottages. Indeed, experiments have abundantly shown, and practically all observers will agree, that none of these organisms will submit to cultivation except in the presence of organic matter, and if such matter is found at all in the atmosphere it is in the form of certain products of retrograde metamorphosis. In the absence of these products the growths of bacteria, and consequently the spread of disease, must be practically nil.

III. *Objective Receptivity.*—The first question that meets us here is whether receptivity is a normal or an abnormal condition. Is the human body the natural habitat of the pathogenic organisms or is it only certain exceptional individuals, certain exceptional morbid conditions, which furnish the necessary pabula for these microphytes to grow and thrive upon? "To breed vegetation," says Dr. Giles in a paper already referred to, "accustomed to develop in the blood of a living mammal, on scraps of potato, on gelatin, and what not, seems at first sight much like attempting fish-culture out of water." The fact thus stated suggests the possibility that such organisms may not, after all, have any special affinity for the animal tissues, but may have commenced their career on other soil. In other words, is it the animal tissue *per se* or is it the animal tissue plus some pathological disturbance which forms a nidus for the reception of the pathogenic organism?

1. We shall not be able to answer this question by an appeal to the history of past epidemics. At the same time there are certain broad facts we are taught by a reference to such history, the knowledge of which will clear the ground for further inquiry. In the first place, we find that the pathogenic state is distinctly exceptional. Only once or twice in the history of the world has epidemic disease even appeared

¹³ Experiments on Tubercle Bacilli (reported to the Royal Society), *Brit. Med. Jour.*, April 23, 1898.

to threaten a universal prevalence. We find, too, in the constant association of famine with pestilence an indication that the pathological effects of starvation are in many cases the determining causes of the extensive incidence of epidemics. A similar pathological condition, but originating in the nerve-centers instead of in the blood, is brought about by licentiousness, while the auto-intoxication caused by sloth and gluttony has been found by experiment to be an equally potent factor in the incidence of zymotic disease. Both these factors have been at work in most pestilential periods. The earlier part of the fourteenth century preceding the Black Death was a time of unbridled luxury and debauchery. A reference to the "Decameron" of Boccaccio will convince any one of this. He himself attributes the enormous mortality in Florence chiefly to this cause. It may also explain the greater susceptibility of Eastern nations generally than Europeans to plague and to cholera. The converse certainly explains the extraordinary longevity and healthfulness of the Jews both as a race and as individuals.

Coming to more recent records, the remarkable fact already mentioned that most of the greater epidemics of the last five centuries have been preceded by influenza, a disease the origin of which we have not yet been able to trace, again points to the conclusion that some preliminary cultivation is necessary before the human subject falls a victim to the onslaughts of pathogenic bacteria. The comparative infrequency with which these organisms run their virulent, and what we suppose to be their natural, course in the animal body is not in itself a proof that the latter is foreign soil. Waste, as we should call it, appears to be a part of nature's system. There are probably thousands of seeds, animal and vegetable, wasted to every one that grows. Still, it is consistent with its being so, and the frequency of this initial preparedness when they do run that virulent course is *prima-facie* evidence that it is.

2. Nor is the evidence of clinical observation by any means conclusive. Few would venture to say offhand whether, *ceteris paribus*, zymotic disease attacks by preference the healthy or the unhealthy. Naturally most men would take the latter view, and they would be justified in doing so; but the apparent exceptions are so numerous that we are often staggered in our opinion. This, I believe, is partly due to an ancient superstition, not yet extinct even in our profession, which associates health with a florid complexion and a tendency to obesity. As a matter of fact the contrary is more often

the case. Granted that in our present state of civilization no man's sanitary condition is perfect, the pale, thin student, the active brain-worker and consumer of midnight oil, is a nearer approach to the perfectly healthy type than the red-faced, muscular, fox-hunting squire or the equally muscular agricultural laborer. On this subject I quote the words of a great observer of human nature, the High Master of St. Paul's School. He says: "I do not hesitate to say that if two boys start life together equally sound in constitution, and circumstances lead one to choose an open-air career of muscular exertion and the other the life of the study and the cultivation of the brain, the student has the better chance of health and long life." Within the profession I have never yet heard this well-known fact so clearly stated. It is important to recognize it, for not until we can truly estimate the degrees of initial proximity to a normal standard, as well as the deviations caused by evil habits, modes of living, and hereditary tendency, can we even approach the question of receptivity from the clinical side. Meanwhile, we are in possession of certain definite facts. We know the prevalence of epidemic disease after the depressing effects of influenza. We know—for we have excluded the possibility of pathogenic evolution—that pneumonia constantly attacks those whose system is abnormally depressed by the effects of influenza, measles, etc., and even in many cases those whose normal habits of life are interfered with by enforced inactivity from accident. We know, too, that unless inoculated under the skin the syphilitic organism (as well as that of gonorrhea) practically never invades the human system except when it is under the influence of the depression following an explosion of nervous force.

Heredity is another important factor in determining the incidence of disease. The susceptibility of some families to attacks of zymotic disease is truly striking. Such hereditary tendencies must have had an abnormal origin somewhere. In many cases it is not far to seek. I once knew a family the members of which appeared to catch small-pox on every possible opportunity independent of vaccination. Some were attacked twice, others three times, at intervals of five or six years. The father was a feeble, miserable-looking epileptic. Observation on a more extended scale shows that the children of drunken parents are more liable to attacks from prevailing epidemics and sink under them sooner than other people.¹⁴ The above are both instances of known hereditary deviations from the nor-

¹⁴ *London Medical Record*, Jan. 15, 1878, pp. 8, 9.

mal standard. In other cases the tendency is seen, but its origin is lost in obscurity. We know, though we cannot account for, the remarkable elective affinity which seems to obtain between the typhoid and Klebs-Löffler bacilli and the members of our own royal family. When any of these cases of illness have occurred numbers of other peo-

TABLE VI.—Combination of Diseases

Disease	Estimated number of concurrences	Actual number of concurrences	Excess of actual over estimated concurrences	Percentage of excess
Small-pox and measles.....	77	124	47	61
" scarlet fever.....	141	177	36	25
" diphtheria.....	62	75	13	20
" whooping-cough.....	166	199	33	19
" fever.....	286	371	85	29
" diarrhea.....	256	295	39	15
Measles and scarlet fever.....	115	159	44	38
" diphtheria.....	50	7	25	50
" whooping-cough.....	134	215	77	57
" fever.....	233	319	86	36
" diarrhea.....	208	295	87	41
Scarlet fever and diphtheria.....	93	118	25	26
" whooping-cough.....	247	285	38	15
" fever.....	425	495	70	16
" diarrhea.....	379	451	72	19
Diphtheria and whooping-cough.....	108	140	32	29
" fever.....	186	226	40	21
" diarrhea.....	167	202	35	20
Whooping-cough and fever.....	499	587	88	17
" diarrhea.....	447	528	75	16
Fever and diarrhea.....	770	1004	234	30

ple without this special affinity have been subject to similar conditions, have lived under the same roof, breathed the same air, drunk the same water, eaten the same oysters, and, of course, have swallowed the same bacilli with impunity. In the *Practitioner* for August, 1898, Dr. Hector Cameron brings forward some striking instances of family tendency to diphtheria. In one case it was called "the disease of the family." In another, out of 23 descendants of one man 11 had diphtheria and 7 died. In nearly all the cases there was no communication between the different families. Lastly, we have the well-established fact of the concurrence of zymotic diseases. This is not a matter of popular observation only, but has been worked out statistically by Dr. Barnes, of Eye, in Suffolk,¹⁵ not in large towns, where the constant presence of zymotic disease would confuse the results, but in a number of small country villages with populations of under 10,000 and where zymotic disease is only an occasional visitant (Tables VI and VII). It is conceivable that the microbes of measles and diphtheria, for instance, should elect to travel about the country hand in hand to the extent of 50 per cent. in excess of their estimated probable concurrence. We are thus driven to the conclusion that the microbes of both diseases are constantly present in the air and

that some insanitary condition renders each individual liable to fall a victim to the first microbe that crosses his path; in fact, that personal receptivity is the determining cause of the prevalence of both diseases.

3. There are many of the recent researches in bacteriology which have an important bearing on this question. Among the most striking are those of Poehl, of Vienna.¹⁶ He finds that tissue-respiration is always abnormal in infectious disease and that infection is always preceded by auto-fermentation-processes in intestine; (4) poi-(1) diminished alkalinity of blood; (2) insufficient supply of oxygen; (3) abnormal fermentation-processes in intestine; (4) poisoning from without; and (5) retention of metabolic products. These experiments, if confirmed, seem to be almost conclusive. Remlinger, of the Pasteur Institute,¹⁷ fed eight rabbits for ten days on cabbage soaked in water containing cultures of the typhoid (Eberth-Gaffky) bacillus. The bacilli were found in the feces all the time, yet only three of the rabbits took typhoid fever. It is possible, then—and this I want to draw special attention to—for an animal to have typhoid bacilli constantly passing through the intestinal canal without contracting the disease. This, I maintain, is what continually takes place under perfectly normal conditions. Of a similar character and tendency are the experiments of Dr. Friedländer and Major Giles, I.M.S., on pneumonia.¹⁸ The latter failed to inoculate some recently captured dogs, while the former succeeded with others which had been confined. On the other hand, Dr. Friedländer failed with his newly caught rabbits, while Major Giles successfully inoculated some that had lived in the insanitary atmosphere of a rabbit-hutch. I must confess that I am not yet entirely converted to a

TABLE VII.—Proportion of Non-concurrent Attacks

Disease	Single occurrences	Total occurrences	Percentage of single to total occurrences
Measles.....	89	612	14
Small-pox.....	140	754	18
Diphtheria.....	97	498	19
Scarlet fever.....	248	1122	22
Whooping-cough.....	293	1315	22
Diarrhea.....	501	2022	24
Fever.....	583	2268	25

belief in the bacterial origin of rickets. Yet the remarks of Mercoli¹⁹ of Italy on his experiments accurately express what I

¹⁵ *Weiner Medicinische Wochenschrift* 1897, No. 4; *Brit. Med. Jour.*, June 5, 1897.

¹⁶ *Annales de l'Institut Pasteur*, No. 11, Nov. 25, 1897; *Ibid.*, March 12, 1898.

¹⁷ On the Micro-organisms of Pneumonia, by Major G. M. J. Giles, *Collective Investigation Record* for 1884, p. 125.

¹⁸ *Brit. Med. Jour.*, April 23, 1898; *Gazzetta degli Ospedali e delle Clin.*, Jan. 30, 1898.

¹⁹ *St. George's Hospital Reports*, Vol. VII, p. 59.

believe to be the case with regard to other pathogenic organisms. Rickets he believes to be caused by streptococci and staphylococci. These, he says, are constantly found in children's mouths and are as constantly being swallowed. As long, however, as the alimentary canal is healthy nothing happens; but if it is out of order they enter the blood and affect the nervous system and epiphyseal ends of the bones, causing a form of chronic osteo-myelitis. Dr. Arthur Ransome,²⁰ in his experiments on tubercle bacilli, found that they were killed by daylight and fresh air, two normal conditions which ought to be everywhere present for this purpose. In their experiments on the typhoid bacillus Achard and Bensaude "have shown that the agglutinating substance may be absorbed by all mucous cavities when introduced into them, provided that such introduction produces lesions. If, however, the mucosa remains healthy it is not absorbed."²¹ This statement is made as bearing on an extremely rare case reported by Castaigne in *Médecine moderne* for November 13, 1897, of the agglutinating property of the serum being communicated to a child 4½ years old from the mother's milk. In this case, which appears to be almost unique, the child was previously suffering from non-typhoid gastro-enteric disorder, which accounted for the transmission.

In dead or decomposing organic matter the pathogenic bacteria can, as we know, be cultivated *ad libitum*. In a perfectly healthy living body, free from lesions, free from auto-intoxication, and with all the secretions in their normal state (*inter alia*, the saliva itself is a powerful bactericide),²² I doubt if they would ever be able to reproduce themselves in a virulent form. In other words, we may conclude that the pathogenic microbe is powerless to cause disease in an ideally healthy subject; it requires for its development a soil prepared for its reception, and such a soil does not exist in any perfectly healthy organ or organism. A healthy organism is one in which the brain is in a constant state of normal activity. There may be external conditions of air, water, and surroundings which render such a condition impossible, but in most cases the onset of zymotic disease is the sequel to some individual defect, either hereditary or acquired,²³ some cause of de-

pression of the vital powers, either temporary or permanent.²⁴ The ancient writers were, perhaps, not altogether wrong when they attributed disease, metaphorically, to the influence of some evil demon. It would not be wrong to do so now. Of all such demons the most potent for evil is perhaps the demon of Sloth. It is Sloth which leads to ignorance and the neglect of all sanitary precautions. Individually Sloth is the direct cause of auto-intoxication and the indirect cause of licentiousness and intemperance—all potent factors of susceptibility to disease. To this particular demon we are not, as a profession, especially liable, and we may congratulate ourselves that it is so. Indeed, we have some of us wished on occasion that we had rather more of it. But let us remember that idleness is not only an evil condition, but that it is an unhappy one. In the words of the great poet of the last century:

She mark'd thee there,
Stretch'd on the rack of a too easy chair;
And heard thy everlasting yawn confess
The pains and penalties of idleness.²⁵

If there is any danger of our ever lapsing into this state I hope it will be avoided by the mental work and food for thought which may hereafter be provided by the discussions and researches of the Chelsea Clinical Society.—*Lancet*.

Subarachnoid Serous Exudation Productive of Pressure-symptoms after Head-injuries

G. L. Walton (*Am. Jour. of Med. Sc.*, Sept., 1898) concludes that:

1. A severe blow on the head may result, either directly or by contrecoup, in a local bruising, congestion, and swelling of the brain-tissue, with serous exudation into the subarachnoid space, either with or without edema of the brain-substance.

2. If this accumulation of fluid occurs over the motor centers, it may be imprisoned so as to cause focal pressure-symptoms, simulating meningeal hemorrhage.

3. This accumulation of fluid is not compensatory, but represents an ineffectual effort toward relief of tensions, as shown by the swollen condition of underlying brain-substance when exposed by operation. The mechanism is probably analogous to if not identical with the so-called meningitis of Quincke. S.

²⁰ Communicated to the Royal Society, *Brit. Med. Jour.*, April 23, 1898.

²¹ *Ibid.*, Jan. 22, 1898.

²² *Ibid.*, Feb. 26, 1898; *Triolo: Rivista d'Igiene e di Medicina Pratica*, An. 2, N. 12, Naples.

²³ The remarkable health and longevity of those who practically spend their lives in foul and unhealthy sewers shows how little the freedom from zymotic disease is necessarily dependent on such external surroundings.

²⁴ It is possible that here we may have to make an exception in favor of small-pox. The incidence of small-pox prior to vaccination and among the unvaccinated has been found to be so universal that this disease appears to have acquired an affinity for the human subject which has become a part of its nature. The recent Act of Parliament for the propagation of small-pox will soon give us the opportunity of renewing our experience of this disease.

²⁵ The Dunciad.

CHRONICLE OF PROGRESS

MEDICINE

SMITH ELY JELLIFFE, M.D. HENRY LYLE WINTER, M.D.
J. H. WINFIELD, M.D.

Water in Ophthalmic Practice

E. E. Hamilton (*Am. Jour. Ophthalm.*, June, 1898) observes that atropia and other alkaloids are apt to deteriorate with age and should therefore be kept in a 3- to 4-per-cent. solution of boric acid. Cold water is indicated in traumatism, to prevent or control hemorrhage, when the inflammatory process is unattended with severe pain; and in inflammation which is usually attended at some stage of the process with discharge of mucus or pus, or both. Conversely, hot water is indicated in the absence of recent injury, in the absence of mucus or pus, and in the presence of pain.

Cold is best applied with compresses taken from blocks of ice, and renewed with sufficient frequency to maintain the degree of cold required. Often they need to be changed once or twice a minute, and continued day and night. This means two nurses, who should be responsible. Heat is best applied with compresses taken from water, which may be used as hot as the finger will bear. In keratitis, water as hot as can be borne, dropped directly upon the cornea, has been recommended. Eye-cups with hot water may be used.

Poultices should not be used in ophthalmology. S.

The Significance of Eosinophiles

W. A. Wells (*Phil. Med. Jour.*, Vol. II, No. 8, p. 383) calls attention to the significance of the eosinophiles, noting the fact that the increase is confined to this particular variety of the leucocytes, which is of itself ground for presumption that these have perhaps distinct physiologic properties; the writer referring also to Neusser as an authority, the latter claiming that leucocytes distinguished by the presence of coarse, acid-staining granules are different from the others so far as their genesis is concerned. The theory that they are directly under the influence of the sympathetic nervous system and are produced in increased numbers when for any reason there takes place irritation of the sympathetic, representing what Neusser calls a kind of secretor neurosis, is supported by a number of facts, among which may be mentioned: 1. The fleeting character of the eosinophiles generally. 2. Its taking place in diseases in

which the nervous system is thought to play a part, and especially occurring during attacks in which are observed phenomena that indicate irritation of the sympathetic. 3. Its association with sexual psychoses, with the psychoses of puberty, menstruation, and the climacteric, which are well known to indicate sympathetic irritation. 4. Its association with certain cutaneous eruptions, pellagra, pernicious lymphoderma, etc., that are perhaps caused by excitation of the sympathetic. 5. Its connection with intestinal intoxication, the toxins probably acting as sympathetic irritants. 6. Its occurrence as a result of the action of pilocarpin, a well-known vasomotor excitant. Resting upon such good grounds, this theory may well be accepted, at least provisionally, so long as it be found consistent with and offering an explanation of demonstrated facts. The writer desires to emphasize also the fact of the occurrence of an augmentation in the blood of the eosinophilic leucocytes in connection with attacks of nasal reflexes, looking upon this phenomenon accordingly in the light of a diagnostic criterion. L.

Purulent Skin-infection—Herpetiform Impetigo of Hebra

M. Hallopean (*Sem. méd.*, No. 50, Oct. 5, 1898, p. 404) has recently observed three cases of purulent skin-infection, two of which have come as complication of the disease described by the author as acute suppurative continuous dermatitis. It is limited to the skin, has multiform superficial suppurations, progressing eccentrically, extending over large areas and constantly recurring by successive fresh outbreaks with febrile reaction often intense.

The initial lesion is very superficial, sub-epidermal, consisting of a slight elevation of the epidermis by a thick exudate as large as the head of a pin, surrounded by erythema. Several miliary papules may arise in clumps or lineally; most frequently the elements multiply eccentrically at the same time that they become crusty in their central part. After the crusts go away a varnished red surface presents, sometimes squamous in appearance. Often the elements become confluent either in lenticular elevations or in curvilinear trails of odd forms. The curvilinear trails enclose areas of fantastic shapes, letters, figures, interdigitation marks, crosses, spirals, and circles. In the legs, when these lesions climb upwards, they represent pairs of stockings, or red and white gloves of increasing length. The nails change and fall off. Purulent phlyctenules appear on the plantar surfaces. About the knees is seen a fine folding of

epidermis, produced by parallel elevations very tense and serrated, resembling the wrinkles impressed into moistened cigarette paper.

The buccal, digestive, and vaginal mucous surfaces are also involved, the eruption becoming at times vegetating. The disease proceeds by febrile attacks, may last several months, and ends most frequently in death. It is impossible to say if it is due to a modified staphylococcus, a still unrecognized pyogenic microbe (aerobic), or toxins emanating from a superficial or deep origin.

It is distinguished from common purulent infection by the absence of visceral infarcts, by its duration—sometimes very long—and by the failure to cure it. H.

Papilloma of the Tonsil

Dr. M. Yearsley (*Laryngoscope*, Aug., 1898) is of the opinion that true papilloma of the tonsil is uncommon; that other benign growths are comparatively frequent, and that the latter are often of inflammatory origin and connected with enlarged tonsils. The histories of thirty-four cases are given, both from the author's experience and that of other workers. G.

Certain Points of Interest in Phthisis

H. P. Loomis (*Med. Rec.*, Vol. LIII, No. 21, 1898) concludes that the prognosis of phthisical patients with poor digestive powers is very bad. It matters little what their lung-condition is, they seldom recover. Climate avails little, and medication is worse than useless. When assimilation is good, the prognosis is always favorable, often even with desperate lung-conditions. Rapid heart-action renders the prognosis bad when observed in a beginning tuberculosis. Age modifies the type. Phthisis of advanced age is often latent in its beginning, slow of advance, tending to destruction of limited portions of the lung. Patients often linger for years when provided with comforts of life, have proper food and a fair allowance of stimulants. Hemoptysis early in the disease does not affect the prognosis one way or the other, especially if it is not followed by fever, which lasts for a number of days. Heredity, not considered as the causal agent, has very little to do with the patient's chances of recovery. Alcoholic subjects do badly. They develop rapid hearts and dyspnea. At any place of altitude the dyspnea and hemoptysis increase. Unless a patient gains in weight he is not doing well, no matter which way his other symptoms point. Before a patient can gain in weight, the fever must diminish or disappear, the assimila-

tion must be good, sleep must be fair, and sweats stop. A person with a strong determination and a happy disposition, who has made up his mind to get well, has, the author believes, a far better chance than one with a nervous disposition, who has no inherent reserve power and who is easily influenced by his surroundings. The location of the lesion is important. A man in the third stage with a cavity at the apex has more chance than one with slight tuberculous changes scattered throughout the lung. The prognosis is good in those cases which develop secondary to pleurisy.

There is a way, the writer says, of examining the lung, which will reveal a very small lesion. The patient's hand is placed on the opposite shoulder, the ear is placed over that portion of the lung uncovered by the scapula, viz., just above and external to where the bronchial tubes are given off; there will be heard prolonged tubular breathing and fine râles on coughing. This is the very first physical sign of tuberculosis—an evidence which will make a diagnosis possible weeks before the signs are evident in front and beneath the clavicle. These signs generally antedate any expectation. One help in the diagnosis of doubtful cases is often omitted, although very important, i. e., the tuberculin test. By its aid tuberculosis in the human subject can be detected just as accurately as in cattle. It is useful both in making the diagnosis of a beginning case and in deciding if a case is cured. It is to be applied in the following manner: Take the patient's temperature every six hours for a few days to see he has no diurnal temperature above normal; then inject one-half milligram of tuberculin and have his temperature taken every four hours during the next twenty-four hours. At the end of two days, if there has been no temperature above one degree, a second injection of two milligrams should follow; if there is still no reaction after two days more, a third and final injection of five milligrams is given. If there is still no reaction, the patient is free from tuberculosis. A newer aid in diagnosis is the X-ray. This gives corroborative evidence and enables us to recognize the extent of consolidated areas and cavities. S.

Chronic Pharyngeal Catarrh

Aristide Malherlee (*Rev. hebdom. de Laryng. d'Otol. et de Rhin.*, No. 40, Oct. 1, 1898, pp. 1185-91) takes up the subject of chronic pharyngeal catarrh as an entity distinct from rhinitis capable of being successfully managed by curetting. He says

that in the majority of cases the catarrh comes from more or less marked hypertrophy of the mucous membrane on the site of Luschka's tonsil. The patients have ancestors with manifest signs of adenoids. Nearly all of them breathe badly by the nose. At puberty complete involution of this tonsil does not take place and a catarrhal membrane is left, subject to attacks of acute or subacute inflammation. The tubular glands atrophy, the lymphoid masses proliferate and become hypertrophied, the whole forming a hard cushion with crypts and fissures, emitting a thick, viscous secretion, mucous or muco-purulent, whose presence, like that of a foreign body, invites to hawking efforts, nausea, and tenesmus.

The patients "cough with their nose and wipe their nose with their tongue." The condition favors involvement of the middle ear. The respiration is of the mouth variety and induces dryness of the throat and mouth, perceived on awakening. Hoarseness and other troubles in phonation are noticed. The examination by posterior rhinoscopy shows mucous or muco-purulent masses.

Douches, powders, sprays, are all inefficient. The author recommends curetting under bromide of ethyl, which must be done more vigorously than in children because the masses are more resisting. Hot boric-acid solution is employed to irrigate the surface after the curetting. After eight days he applies cotton to the curetted surface, steeped in the following solution:

Iodine.....	1 grn.
Iodide of potass.....	3 grn.
Distilled water.....	40 grn.

This is repeated a few times. H.

Hyperesthesia of the Stomach

Soltan Fenwick (*Med. Press*, 1898) recognizes two kinds of hyperesthesia of the stomach, primary and secondary. The primary form is rare; but the disease is usually secondary, and depends on anemia or some disease of the central nervous system, e. g., cerebral tumor, locomotor ataxia, myelitis, hysteria, and neurasthenia. Young girls with chlorosis and convalescents from measles, scarlatina, and typhoid manifest it. It is characterized by pain in the epigastrium immediately after food; in mild cases a burning or aching limited to the left hypochondrium; in severe cases, pain radiates over the epigastrium and back of the chest. Both liquid and solid foods excite it after a few mouthfuls have been taken; nausea and finally vomiting may ensue. There is no loss of flesh, appetite is good, or capricious, or may even be exaggerated.

The tongue is pale, flabby, and indented along the edges. Constipation, irregular menstruation. Skin over left hypochondrium and side of chest is very tender to pressure. Secretion of HCl is normal. There is no other sign of disease. It must be distinguished from ulcer and from catarrh. In ulcer, pain is localized, seldom occurs immediately after food, being usually deferred at least a quarter or half an hour. In ulcer there is vomiting only at the crisis, and there is hematemesis. In catarrh severe pain is the exception; sense of distension and discomfort is the more common complaint. Tongue is foul, appetite poor, HCl diminished or absent. Skin never hypersensitive.

Treatment is given in bed, first with liquid foods; afterward, when pain and vomiting are less, milk, puddings, eggs, fish, and chicken. The bowels should be carefully regulated, especially with cascara and maltine. Avoid saline aperients. A successful local treatment is the giving of $\frac{1}{2}$ grn. of silver nitrate dissolved in 6 oz. of distilled water each morning before breakfast. In the severest cases, lavage with a more dilute solution. The salts of iron are good given after meals. H.

Parinaud's Conjunctivitis

The characteristics of this disease are stated by Dr. H. Gifford (*Am. Jour. Ophthalm.*, July, 1898) as follows: There is a rather sudden onset, with great thickening of the lids; muco-purulent discharge, sometimes profuse at first, but rapidly becoming rather scanty; the formation within a week or two of large, frequently polypoid and pedunculated granulations on the tarsi, the folds, or on both, and sometimes on the ocular conjunctiva. Between these larger granulations, which are at first red or grayish-red and somewhat translucent, there sometimes occur numerous smaller yellowish ones. Between or on the large granulations there sometimes occur erosions or small ulcerations. Almost immediately after, or very rarely before, the development of the conjunctivitis, there occurs sudden inflammation of one or more of the groups of lymph-glands on the same side; the pre-auricular and retro-maxillary groups being most frequently involved, though sometimes both these and the cervical and sub-maxillary glands are affected. The affection of the lymphatics is generally very marked, the swelling being sometimes enormous, and suppuration occurring frequently. With the onset of the disease slight rigors and fever, with general depression, may occur. The affection is likely to be one-sided, showing no tend-

ency to spread to the other eye or to the eyes of any other person. A spontaneous cure results in from two to six months. Parinaud considers the infection to be of animal origin; the author doubts this, and is of the opinion that the infection starts with the formation of a greater or less number of small abscesses in or below the conjunctiva. As to treatment, silver nitrate, the galvano-cautery (especially after clipping off large granulations), iodoform ointment, and sulphate-of-copper crystals are appropriate. The prognosis is slow, but no affection of the cornea or other serious result has occurred except in one case—a doubtful example of the disease. G.

Enlargement of the Lingual Tonsil as the Cause of Cough

B. Robinson, before the American Laryngological Association (*Bost. Med. and Surg. Jour.*, Vol. CXXXIX, No. 10, p. 248), referred to enlargement of the lingual tonsil as a cause of cough being but poorly understood by the general practitioner. The beginning of this condition is insidious, especially in young adults. Those of a sluggish or lymphatic temperament are more subject to it. If the cough lasts but a short time the general practitioner usually ascribes it to the stomach or some reflex cause. Possibly he may think of laryngeal inflammation, and the laryngeal mirror may reveal an enlarged tonsil. In children of from 2 to 3 years of age, a laryngeal cough without reasonable cause is usually due to pressure on an enlarged tonsil. An irritative cough is often the only symptom of acute congestion of the lingual tonsil; there is little to be found on inspection. All the symptoms are worse at night. Impaired condition of the general health or the continuance of a catarrhal relaxation are predisposing causes. The trouble may be also due to anemia, constipation, habitually irregular habits as regards food and rest, as also overfeeding and indulgence in pastry in young children. L.

Tubercular Peritonitis in Children

Dr. Marfan (*Arch. f. Kinderheilk.*, Vol. XX, pp. 5, 6) distinguishes three varieties of tubercular peritonitis in children.

1. Ascites tuberculosus chronicus. This is the most frequent form, either ending in recovery or developing into

2. Peritonitis fibro-caseosa. In this event the ascites diminishes and becomes encapsulated with the gradual production of tubercular masses. Recovery in this form is extremely rare. An abscess usually develops, which may rupture into the in-

testines or externally in the umbilical region. Sometimes the degenerated lymph-glands form fibrous adhesions with the neighboring tissues and lead to the third variety.

3. Peritonitis tuberculosa fibro-adhesiva. In this variety occlusion of the intestines may result from the overproduction of fibrous tissue. Compression of the liver and spleen may also take place.

In the medical treatment of tubercular peritonitis cod-liver oil and creosote or its derivatives are of value, and must be tried in mild cases, as tubercular peritonitis has in many cases a tendency to heal spontaneously. Laparotomy is, in the author's opinion, indicated in:

1. Cases of peritonitis fibro-caseosa with ascites.
2. Localized peritonitis with encapsulated fluid.
3. In cases of resulting intestinal obstructions. S.

The Factors Predisposing to Pneumonia

Ferun and Montesani (*Brit. Med. Jour.*, Oct. 1, 1898) have carried out an exhaustive series of researches into the conditions influencing the morbidity and mortality from lobar pneumonia in various towns and in different classes of society. They show that meteorological factors are not the sole ones concerned in the spread of pneumonia from town to town. There is no doubt, however, that the character of the winds, the liability to sudden changes of temperature, and the relative humidity have an important influence, so that the liability of particular cities and districts to be infected with pneumonia depends upon their position with relation to mountain peaks, lakes, and the sea. Climatic conditions act also indirectly by influencing the habits of the indwellers. Thus, when these are such that much work is done in the open air, there is often great exposure to chills, although the weather is in general mild. The prevalence of given diseases in certain towns may also be traced in certain cases to the preponderance of some particular industry. The character of the inhabitants may play a further important part: thus, the habitual carelessness of the Neapolitans predisposes them to pneumonia far more than the Piedmontese. Questions of diet, and particularly of the abuse of alcoholic drinks, must likewise be considered. Then, again, there is the economic condition of the various towns, increasing or diminishing as it does the resisting power of the inhabitants; with this is bound up the equally important question of public and personal hygiene.

Failure in any of these conditions leads to increased morbidity from pneumonia, and no doubt from all other infectious diseases, while at the same time there is a greater tendency on the part of those attacked by the disease to succumb to it. Above all, in spite of the lessened exposure, there seems to be no doubt that the mortality from pneumonia is much greater in towns than in the country. In the large towns particularly the predisposing occupations are more numerous, and the economic conditions less satisfactory; the struggle for existence is keener and more severe, and the mode of life, particularly among the poor, less hygienic. The poor, indeed, tend to be herded together in unhealthy houses, to be fed with insufficient and unhealthy food, and to give themselves up to various forms of excess. All these circumstances must, according to the authors, be reckoned among the factors predisposing to pneumonia. G.

Choroiditis and Choroido-retinitis in the Young

A. C. Corr (*Am. Jour. Ophthal.*, July, 1898) does not agree with the opinions generally expressed in books that all cases of choroiditis are caused either by rheumatism, gout, traumatism, or syphilis. Five cases are cited in young patients who had no proximate or remote syphilitic taint where the cause was excessive functional activity of the eyes. An organ's liability to inflammation is increased according as its functional activity is increased. Besides the above-mentioned cause, diminished tonicity of the tissues and circulation incident to indoor work, vitiated air, want of sunlight, lack of exercise, and indulgence in improper food are factors. Correction of errors of refraction and adjusting lenses for the near-point, relieving thus the necessity for convergence and accommodative effort, should be a rational procedure. G.

Recurrent Gonorrhea

F. C. Valentine (*Atlanta Med. and Surg. Jour.*, Vol. XV, No. 7, p. 433) discusses the principal causes of this condition, which he enumerates as follows: 1. Marital re-infection. 2. Infection of crypts, glands, or follicles of the anterior urethra. 3. Chronic residual posterior gonorrheal urethritis. 4. Gonorrheal prostatitis. 5. Seminal vesiculitis. Any two of these or all these causes may, in the opinion of the writer, be united in one case. In a résumé the writer declares that: 1. Cessation of the symptoms does not prove that the case is cured. 2. No female cured of the evi-

dences of gonorrhea should be dismissed without proving that the apparently normal urethra, Bartholin's glands, the cervix and the submucous tissues (especially those of the cul-de-sac) are free from gonococci. 3. No male should be dismissed from treatment until it is definitely ascertained that his urethra, seminal vesicles, and prostate are free from the disease. 4. The methods of securing positive evidence of the cure of gonorrhea are within the general practitioner's reach. L.

Hysteria in Childhood as It Occurs in the United States of America

After reviewing the literature on this subject since 1686, H. B. Sheffield (*New York Med. Jour.*, Vol. LXVIII, Nos. 12 and 13, 1898) maintains that the various diseases supposed to have been produced by witchcraft and sorcery and the numerous religious ceremonies largely in vogue about the beginning of the nineteenth century were phases of hysteria, which passed, however, unnoticed by the medical profession.

The same impetus which revolutionized the whole field of medicine struck the death-blow to the old-time theories of hysteria. So that hysteria in childhood—only a few decades ago a source of revenue to the quack and charlatan—is to-day a subject of much controversy, attracting general attention. Theories are being expounded by almost every teacher of medicine; all endeavoring to elucidate the real nature of this obscure disease. The writer arrives at the following conclusions:

1. Hysteria is a neuro-psychosis, manifesting itself in an array of functional disturbances of one or all of the higher centers (intellect, feeling, and will), with secondary changes in the lower ones, underlaid by a morbid condition of the nerve-substance. Whether this defect lies in the neuron, in the nerve-cell, in the nerve-fiber, or in all of them; or whether this defect is due to a mere apathy or disturbance of the chemico-molecular composition of the nerve-substance, are questions as yet awaiting correct solution.

2. The etiology of hysteria in childhood is, like that in the adult, very obscure. Anything that lowers the vitality of the patient serves as a predisposing cause. The rôle played by heredity as an etiological factor of hysteria is overestimated. Much more weight must be laid upon the acquired causes, among many of which imitation, faulty methods of education and discipline, alcoholism in the young, and trauma, are deserving of special mention.

3. Hysteria attacks boys as well as girls, the ratio being as one to two. It is com-

paratively rare in children under 8 years of age, although children 18 months old are not exempt from it.

4. The symptomatology of hysteria is characteristic for its changeability and multiplicity. In the United States it is observed, as a rule, in the following order of frequency:

a. Spasmodic Affections (convulsions, spasm of the laryngeal muscles, croup, contractures, catalepsy).

b. Sensory Symptoms (painful sensations, anesthesia, blindness, contracture of visual field, hemianopsia).

c. Motor Disturbances (paralysis of the extremities, paralysis of the laryngeal muscles, aphonia).

d. Visceral and Vasomotor Disturbances (affections of the alimentary canal, dyspnea, tachypnea, hyperpyrexia).

5. The treatment consists in removal of the causes, attention to general hygiene, isolation and rest, suggestion and hypnotism. The duration of this disease depends greatly upon the skill in treatment; the prognosis is, at all events, favorable. S.

The Diagnosis of Nephritis without Albuminuria

Dr. Arthur R. Edwards thus summarizes a paper on the subject (*Amer. Jour. Med. Sci.*, Oct., 1898):

1. Carefully repeated routine chemical and microscopical examination of the urine every twenty-four hours usually, but not invariably, detects acute and chronic nephritis.

2. The diagnosis of the albuminuric and non-albuminuric types of nephritis is aided by searching examination of other viscera and parts, e. g., by a disturbance of cardiovascular changes, retinal involvement, etc.

3. These visceral or somatic changes usually present in nephritis may be lacking in concrete instances, or be capable of other or diverse interpretation, as atheroma, etc.

4. The urinary findings most essential to the diagnosis of nephritis may be lacking, as well as many other signs and symptoms of minor dignity.

5. Nephritis may be unattended by albuminuria. Such nephritis is usually interstitial in type.

6. While certain instances of non-albuminuric nephritis correspond to the type described by D. D. Stewart, yet non-albuminuric nephritis may not exactly correspond to the said type, since acute nephritis, chronic parenchymatous nephritis, and chronic interstitial nephritis may occasionally occur without albuminuria.

7. Casts should always be searched for; they are more constantly found than is albumin, yet they seem, in certain instances,

to betoken renal degeneration rather than inflammation. They are not invariable in nephritis, nor are they invariably nephritic.

8. Future clinical caution and pathological examinations will probably increase the number of cases of non-albuminuric renal inflammations of acute, subacute, and chronic types.

9. Non-albuminuric nephritis is of special importance in life-insurance and kindred examinations, and in practice, since prophylactic measures may be instituted, and the prognosis obviously influenced.

R.

Sympathetic Ophthalmia

C. E. Shaw (*Brit. Med. Jour.*, June 18, 1898) maintains that the whole weight of experimental and the greater part of clinical evidence either fails to support or is actually opposed to the migratory theory of this disease; we must fall back, thinks the author, on some form of the old theory, that sympathetic ophthalmia is due, in whole or at least in part, to irritation of the ciliary nerves. Possibly the mechanism by which sympathetic irritation is conveyed after injury differs in man from that in the lower animals, a not unlikely assumption when we remember the anatomical arrangement of the whole ocular apparatus in man, designed to secure binocular vision; or possibly the explanation lies in the anatomical and physiological relationships of the nervous mechanism conveying the irritation. G.

Closing of a Perforation of the Tympanic Membrane by Applications of Trichloroacetic Acid

Szenes reported to the Otological and Laryngological Society of Budapest, February and March, 1898, the case of a man of 29, who at 11 years of age had scarlet fever and ever since otorrhea of the left ear (*Revue hebdom. de Laryng. d'Otolog. et de Rhin.*, No. 33, Aug. 13, 1898). The examination of the patient revealed green pus in the left ear, a posterior perforation of the tympanic membrane as large as a lentil, the rest of the tympanic membrane being opaque. With Meyer's sound no necrosis of the ossicles were discovered nor of the walls of the tympanum, nor was there granulation of the mucous membrane. Hearing was normal in the right ear. In the left, watch was heard only on contact, or, better, through bone. C₄, C₃, and C₂ are heard by air when strongly vibrated; C₁, C, and A are heard only by bone-conduction. The low voice is not heard at all, and the high voice is best heard by aid of a trumpet nearby. Weber's test is negative. It is a

case of chronic suppurative otitis media. Cleansing and packing with iodoform gauze diminished suppuration so that in a month cauterization of the perforation with trichloroacetic acid was begun. Reaction was considerable, followed by exudation into the tympanic cavity, which disappeared under injections made every two days. Every eight or nine days a cauterization was made until the opening was closed adherent to the inner wall, but without amelioration of hearing and yet with complete cessation of all active processes before existing. Cocaine was applied, which, however, did not relieve all the pain, excessive for about ten minutes. H.

Malarial Affections of the Eye

Major F. M. Yarr (*Brit. Med. Jour.*, Sept. 24, 1898, p. 870) summarizes the eye-affections due to malaria with pathological characterization and with emphasis on the greater importance of these conditions, on account of the widespread existence of malaria, than of the rare anomalies that receive attention in treatises on the eye to the neglect almost completely of malarial affections.

Malarial eye-lesions all begin in circulatory troubles. They are: 1. Neuritis. 2. Retinal hemorrhages. 3. Retino-choroiditis. 4. Effusions into the vitreous.

I. Malarial Neuritis.—A typical case is given in which were present supraorbital pains, dimness of vision, and photophobia. There were repeated attacks of malaria in twelve months. The patient was anemic, thin, the spleen enlarged. Temperature and urine were normal. Vision $\frac{6}{20}$ each eye; fields normal; color-perception unimpaired. Vision improved, regressed, and improved again, being at various times $\frac{18}{60}$, $\frac{36}{60}$, $\frac{12}{60}$, $\frac{24}{60}$. The characteristic points are:

- (1) Repeated attacks of malarial fever.
- (2) At the beginning, supraorbital pain and photophobia.
- (3) Color-perception was unimpaired, except in rare cases, ending in complete atrophy.
- (4) The most characteristic symptom of malarial neuritis is the variation from time to time in the visual acuity.
- (5) Fields intact or but slightly impaired.
- (6) Fundus-changes seen with ophthalmoscope, swelling of papilla, its grayish-red hue (pathognomonic, and due to melanemia, and increased vascularization), edema of circumpapillary retina with effacement of the margins of the papilla, and tiny peripheral retinal hemorrhages in about one-third of the cases.
- (7) Partial atrophy in about 80 per cent.

of the cases, indicated by varying visual acuity, irregular field, and grayness of disc. Some recover completely; some end in atrophy. Poncet has shown that the atrophy is due to endarteritis.

II. Retinal Hemorrhages.—The minute peripheral hemorrhages occur often in ciliary region in acute attacks of fever. Poncet found them in all cases of death from malaria. The large peripapillary and macular hemorrhages, less frequent, seen in malarial cachexias, are of graver import, sometimes ending in sudden and complete amaurosis, due to infarcts of parasites and extravasations.

III. Retino-choroiditis.—This occurs in 20 per cent. of cases of acute intermittents, with supraorbital pains, tenderness of eyeballs on pressure, photopsies, and photophobia. With ophthalmoscope, hyperemia of fundus (mainly venous), red and swollen papilla, surrounded by a gray veil, general haziness of retina and undulating surface. This initial stage subsides and is followed by uniform gray retina, like a peppered ground, disk pale, arteries thready, distribution of choroidal vessels distinct, the vessels white with a red streak, pigment-layer atrophied, vision varying.

IV. Effusions into Vitreous.—Seely first pointed those out. They appear with a white reflex, giving impaired vision and sometimes permanent floating opacities.

In addition, may occur sudden and persistent amaurosis without fundus-change (probably control), periodic amaurosis, sudden amaurosis ending in atrophy, persistent central scotoma, periodical blue vision, and sometimes quinine-amaurosis.

Treatment, in all cases, is that of malaria.

Different Forms of Albuminuria in Diabetes Mellitus

Dr. K. Grube (*Brit. Med. Jour.*, July 23, 1898) considers (1) albuminuria, with the severe form of diabetes; (2) albuminuria produced by failure or weakness of the heart; (3) senile albuminuria; (4) functional albuminuria, and (5) albuminuria caused by chronic inflammation of the kidneys. As to treatment: In functional the chief object to attain is the reduction of the irritation; this is accomplished by diminishing the glycosuria, which can only be done satisfactorily by dieting. In cases of real chronic nephritis it is often difficult to treat both affections satisfactorily, and one must try not to do harm in one way while doing good in the other. If, as sometimes occurs, the glycosuria ceases altogether, or at least becomes quite inconsiderable, as the nephritis develops, the treatment is somewhat easier, as the dieting gives less

trouble. On the whole, the prognosis in these cases is very grave. The cessation of the glycosuria seems to show that the tissue of the kidneys is more changed than in those cases in which there is still some excretion of sugar. Milk, if well tolerated, is prescribed freely. Mineral waters can be beneficial, especially those of Neuenahr, after the use of which the author has sometimes seen decided improvement. If the patient has sufficient strength, warm baths may be used with advantage. They relieve the kidneys by increasing the action of the skin. That it is essential to keep these patients quiet, or even in bed, for some time, and to avoid everything that could increase the irritation of the kidneys, need scarcely be pointed out. G.

Coronilla Varia in Diseases of the Heart

V. Poulet (*Nouv. Rem.*, July 8, 1898) made a series of clinical observations on the action of *Coronilla varia* on diseases of the heart. The drug was given in the form of an infusion or in substance in doses of one decigram ($1\frac{1}{2}$ grn.) four times daily. These observations convince the author that coronilla is an excellent cardiac remedy: it regulates the rhythm of the cardiac contractions, increases their force, works excellently in palpitation of whatever cause, etc. It has, besides, a very favorable effect on the digestive functions, in which respect it is very much superior to digitalis, which cannot be borne by many patients, causing nausea, vomiting, and diarrhea. Coronilla is therefore especially indicated in those cases of heart-disease which are complicated with disturbances of the digestive apparatus, and with vertigo. Unlike most cardiac remedies, coronilla has no cumulative effect, is an excellent diuretic, and sometimes proves effective, where strophanthus, sparteine, and digitalis fail. We must then admit that it deserves a high place in our therapeutic armamentarium. R.

Actinomycosis

While in former years surgical interference was thought to give the only hope of cure in this affection, of late non-operative procedures have been tried with marked success. Billroth records a case in which actinomycosis of the abdomen communicating with the bladder was cured by fifteen tuberculin injections, and the potassium-iodide treatment recommended by Thomasen has also, in many instances, been followed by happy results. Th. Herlofsen (*Norsk Magazin for Laegevidenskaben*, Vol. LVIII, No. 10) describes a case in a girl of 20. At the first examination a hard tumor

of the size of a walnut was found in the parotid region; it had been there five weeks. Six weeks later it was red and fluctuating, and an abundance of the granules characteristic of the ray-fungus was found in the pus evacuated through a small incision made for diagnostic purposes. A complete cure was quickly obtained by the internal use of large doses of potassium iodide. J.

Fragilitas Ossium Idiopathica

At a meeting of the Munich Medical Society, Dr. Krecke exhibited a boy 4 years old who has had seventeen fractures of the long bones during the last two and one-half years (*Munch. med. Woch.*, No. 29, 1898, p. 948). The arm had been fractured three times, the forearm three times, the thigh nine times, and the leg twice. The fractures always occurred without any external violence, but during the most ordinary movements, such as getting up from bed, etc. In every instance the fractures were through the entire diameter of the bone, and they healed rapidly when confined in immobilizing splints or bandages. On account of the numerous fractures in the lower extremities they became deformed, as in rachitis. But the author thinks he is justified in excluding rachitis in this case as the child had no other rachitic symptoms; he therefore considers it a case of idiopathic bone-fragility. R.

Bacteriology of Meningitis in Infants

Simple posterior basic meningitis, a disease which occurs chiefly within the first year of life and is indeed very rare after the end of the second year, has only recently been recognized as a definite clinical entity, with characteristic symptoms and course. G. F. Still (*Jour. of Path. and Bact.*, Vol. V, 1898, p. 147) shows from a small number of observations facts which would seem to point to the following conclusions: (1) The disease of infancy, recently described as simple or non-tuberculous posterior basic meningitis, is a specific disease, due always and only to a particular micro-organism. (2) The micro-organism which is the cause of this disease is a diplococcus, which is almost identical with the diplococcus described by Weichselbaum and Jaeger; it presents, however, some slight differences, which are probably to be accounted for by natural variation.

(3) The simple posterior basic meningitis of infants must, on bacteriological evidence, be considered as a sporadic form of the disease known as epidemic cerebro-spinal meningitis, the *D. intracellularis* having been shown by recent observers to be the

cause of some, at least, of the epidemics of that disease. (4) The peri-arthritis, which occasionally complicates posterior basic meningitis of infants, is due to the same diplococcus that is found in the meningeal exudation. J.

Treatment of Osteomalacia

Neumann (*Birming. Med. Review*, Oct., 1898) enunciates the following conclusions, based upon a review of his own cases and those reported in literature:

1. Neither castration, nor Cesarean section, nor the internal remedies can be considered as certain curatives in osteomalacia, for while the first two cure the majority of cases, and internal treatment does the same, to a less degree, there still remains a considerable number of cases in which these methods produce only improvement, or not even that.

2. Internal remedies unquestionably produce an improvement, but it is probable that this improvement is only the same as that which it is possible to obtain by simple amendment of the hygienic and dietetic conditions.

3. Quite a different effect was obtained by the administration of phosphorus after castration or Cesarean section, in cases where convalescence was delayed or interrupted. In these cases the phosphorus proved very valuable, the periosteal pains became diminished, and motion was soon resumed.

4. In non-pregnant patients, especially when the disease has not made any great advance, the use of internal remedies has only a certain range. When after a fairly long use the conviction is obtained that no improvement has been made or that the case is getting worse, castration should be performed as soon as possible, so as to prevent the advance of the disease and the consequent deformity of the bones, which, if unchecked, may become so great that the action of the heart and lungs will be impeded (by the deformity of the thorax), and the patient's capacity for earning a living will be lost.

5. In very severe cases even castration will not be able to check the advance of the disease.

6. As to the value of chloroform, no deductions can be drawn, as it was used only in one case. But a trial ought to be given it, since in the worst case it improved the general condition and the sacral pain for some time.

7. In pregnant osteomalacic patients, if the pregnancy is not far advanced and the bone-disease is making rapid steps, with great weakness and great suffering of the

patient, the best method is extirpation of the pregnant uterus and adnexa—hysterectomy with retroperitoneal treatment of the stump by Chrobak's operation—as against artificial abortion and castration afterward, since it is a simpler procedure to cure the patient with the one operation than to run the risks of hemorrhage and infection in the abortion and the puerperal state, and then only to perform castration.

8. At the end of pregnancy or in labor, when the termination of these is impossible or only possible by destruction of the embryo, Cesarean section should be performed; and not by the conservation method, but the uterus should be removed, the adnexa likewise, and the stump should be treated subperitoneally. The extraperitoneal treatment of the stump is only indicated in those cases where special circumstances, as rupture and infection of the uterus, demand it. Commencement of labor, that is, opening of the os uteri, cannot be taken as a contra-indication to subperitoneal treatment of the stump. R.

Measles

Slawyk (*Deut. med. Woch.*, April 8, 1898), in speaking of the Koplik diagnostic, prodromal spots of measles, says they are round, slightly raised, bluish-white efflorescences having minute red centers, and measure from $\frac{1}{10}$ to $\frac{3}{10}$ inches in diameter, generally situated upon the mucous surfaces of the cheek, less frequently upon the lips, and rarely upon the tongue. It may occur upon both sides, most frequently in the vicinity of the back teeth. They vary in number from six to twenty, although many more may be present.

They are best seen in daylight or with a strong incandescent light, but are not visible by ordinary lamplight. The spots seldom coalesce, and appear about the second day of the prodromal stage, and increase in number until the skin-eruption appears; remaining without change three or four days more, when they disappear. W.

Symptomatic Rashes in Children

D. Walsh, London (*Pediatrics*, Vol. VI, No. 7, p. 298), in considering the causative conditions associated with cutaneous maladies, offers the view that some forms of dermatitis might be due to the excretory irritation (a) of micro-organisms, (b) of bacterial products, (c) of drugs, (d) of the virus of various blood-borne diseases, i. e., gout, etc. The assumption of reflex neuro-vascular disturbance, commonly accepted as an explanation of symptomatic rashes, is but a vague hypothesis, lim-

ited by imperfect knowledge. An interesting observation is the fleeting rash associated with diarrhea in children, the writer venturing to call this an "excretory" rash, it being obviously toxic in origin. Also the "teething" rash, which still represents the dominant pathology of the nursery, seems likely to disappear from medical etiology, it being in most cases a symptomatic erythema due to absorption of a bowel-toxin. In ptomaine-poisonings there is sometimes an early rash before the onset of the severe symptoms. One great practical deduction is that any internal condition capable of influencing the skin may also damage other and more vital organs, as, for example, the kidney. L.

How to Avoid Tuberculosis

H. Tucker Wise (*Med. Rec.*, Vol. LIV, p. 577) recommends the following to maintain health and ward off a recurrence of the malady:

1. A generous dietary of nitrogenous food.
2. Free ventilation of dwelling- and sleeping-rooms by open windows with wire-gauze blind.
3. Adequate house-heating in winter.
4. Boiling of all milk and cream previous to use.
5. Eight hours of sleep should be obtained every night, if not sound sleep, contract the hours to seven and rest in the day.
6. If debilitated with weak digestion, rest in the recumbent position a quarter of an hour before and after meals.
7. The loosest clothing possible should be worn, especially round the waist and lower ribs, to afford absolute freedom in respiration.
8. Systematic exercise daily in the open air on foot.
9. If means and station in life admit of a long holiday from time to time, live during the weather in a tent in the open air or in a summer-house for most of the day; and, if unemployed, pursue a hobby to occupy the mind. R.

Lupus Erythematosus

C. P. M. Boeck, at the meeting of the British Medical Association (*Brit. Med. Jour.*, Sept. 10, 1898), said: 1. Lupus erythematosus is always and in all forms an eruptive inflammatory disease, of which the localizations are determined by the vasomotor centers of the skin. It is never merely a local process. 2. Local irritation by heat, cold, and drugs plays only an accidental and determining part by bringing the vasomotor system into play. 3. In view of the very frequent coincidence with

tuberculosis it must be admitted that the latter plays an important part in the etiology of the skin-affection, and is probably the real and essential cause of it. The fact that a connection may be traced between all forms of lupus erythematosus and certain affections, the dependence of which on tuberculosis is beyond doubt, is an evidence of the tuberculous origin of lupus erythematosus. Nuna gave a scheme of treatment for the practical physician, excluding all perilous, unreliable remedies, or those which require especial skill. The first question after diagnosis is whether the case is indolent or irritable; in general the latter are those on the cheeks, nose, eyelids, ears, the backs of the hands, especially if the patches are only slightly hyperkeratotic, swollen, and dark red. The indolent cases are those on the scalp, the lateral parts of the face and neck, and on the rest of the body. Next to the seat of the disease, the personal factor plays an important part, partly because the vasomotor paresis of the vessels of the skin begins in each individual at a different point of irritation, and partly because each individual may possess a different idiosyncrasy in his tolerance of the various remedies which are capable of producing extraordinary irritations. As it cannot be known beforehand whether an apparently indolent case may or may not react too strongly under a given treatment, the general rule should be to begin the treatment always with one of the mild remedies and not to proceed to stronger ones until the former have proved not strong enough. Lead-water dressings, applying these at night; during the day a dusting of pulvis cuticolor, or a zinc-sulphur paste, with ichthyol or resorcin eventually, to be rubbed in; or a gelanthum with ichthyol or soft soap, would be appropriate.

Under this treatment the inflammation subsides, and it will be possible to distinguish the indolent from the irritable patches. If the latter show signs of fixed edema, collodion with soap or ichthyol may be applied, while in cases of darker redness it will be advisable to use the micro-cautery. In addition to these applications, an external dressing may be used at night, consisting of lead-water, ichthyol, or very weak caustic potash (1-in-10,000) solution. On the other hand, the indolent patches require more vigorous treatment, as pyraloxin paste and the soap treatment, which may easily be modified in strength and quality by using the lather of soft soap, salve-soap, or mercurial soft soap. These patches are best covered immediately after such a treatment by a wet bandage, and

zinc-oxide plaster mull or mercury plaster mull. Strongly hyperkeratotic patches require before the soap treatment a peeling with salicylic-soap plaster mull. The patches on the scalp should be treated thoroughly with soft soap and then covered with pyraloxin ointment. In cases of anemia, flushings of the face, or where digestion is disturbed, an appropriate plan is to give ichthyol internally during the whole course of the treatment. The pulvis cuti-color is:

Zinc Oxide.....	
Boli Rubræ.....	
Boli Albæ.....	2.0
Magnesiae Carbon.....	3.0
Amyli Oryzæ.....	
M. Ft. pulv.	

The paste mentioned is:

Past. Zinci Sulphuratæ.....	20.0
Resorcini.....	
Ichthyoli.....	1.0
M. Ft. Pasta.	

Collodion or gelanthum preparations are:

Collodion.....	20.0
Ichthyoli.....	2.0
M.	

Or

Collodion.....	20.0
Sap. Virid.....	2.0
Acid Salicyl.....	2.0
M.	

A good pyraloxin paste would be:

Pasta Zinci.....	20.0
Pyraloxin.....	2.5
M. Ft. Pasta.	

A good soap would be:

Sapon Kalini Unguinosi.....	20.0
Ichthyol Sulfoni.....	2.5
M. Ft. Sapo unguinosus.	
S. Salve-soap, to be lathered on the skin and then covered with a wet bandage.	

Diphtheria of the Conjunctiva

Dr. S. Stephenson (*Brit. Med. Jour.*, June 18, 1898) considers this disease not uncommon in continental Europe. Young children are especially liable, and females rather more so than males. It is apt, at least in the beginning, to be bi-lateral, it is frequently associated with diphtheria of the fauces, nose, or other parts; it seems often to have followed impetigo, possibly, however, a mere coincidence. The debilitated are especially prone, a foregoing affection of the lids, e. g., trachoma, predisposes; although the connection can hardly be as close one. As to diagnosis, the severity varies from an appearance so slight as to escape detection to a condition involving the loss of the cornea within 24 hours. The clinical appearances will depend upon the relationship existing between two factors: (1) the virulence of Klebs-Loeffler, and of

any associated germs; (2) the patient's resisting powers, local and general. The virulence of certain bacteria may be heightened or lowered, according to environment. The author agrees with continental writers that there are three clinical forms—interstitial, superficial, membranous, and merely catarrhal. The history of the case will help in diagnosis; but clinical evidence would not be proof of the disease unless corroborated by bacteriological examination. The urine may contain albumin. This affection must not be mistaken for fibrinous conjunctivitis, or false membranes following injury. The pre-auricular glands may be smaller; but this is also a symptom of other severe conjunctival affections. There is, in fact, but one sure sign—the presence of the diphtheria bacilli. It is necessary to differentiate between the Klebs-Loeffler and the xerosis bacilli; this is done as follows:

1. Both stain by Gram's method, but the diphtheria bacillus loses its gentian-violet, when in alcohol, much more quickly than the xerosis organism.
2. Klebs-Loeffler bacilli give rise to an acid reaction when grown in neutral bouillon or milk, while xerosis bacilli never do.
3. The xerosis organism when inoculated into guinea-pigs causes nothing more than a swelling at the site of the puncture.

S.

Cure of Tubercular Arthritis without Opening the Joints

Calot (*Bul. gén. de Thérap. méd.-chirurg.*, Sept. 8, 1898, p. 344) for two years has ceased to open into white swellings because he regards tuberculous arthropathies, in an anatomo-pathologic point of view, as cold abscesses of the joints. That is evident when there is effusion (cheesy pus or sero-sanguinolent liquid) in the cavity. But it is equally true when there is no effusion; when the synovial and osseous extremities are simply carpeted with fungosities—a virtual cold abscess-cavity, the active contaminated abscess-wall being there without the abscess liquid contents; hence the use of the same treatment as for cold abscess.

Opening causes too great loss of substance. The best treatment—that which most frequently cures white swellings and leaves the limbs most useful—consists in injecting the interior of the joint-cavity with (in the author's preference) camphorated naphtol and iodoform in ether, as follows: After emptying the cavity of its contents, a small dose of the camphorated naphtol, say 1 to 10 gme., according to age of patient, is injected every two or three days till eight injections have been made. After this two injections of iodoform in

ether are made. Then, after having continued to empty the cavity two or three times of the secretion which the last injection has set up, compresses are applied of cotton and plaster bandages. The period of injections has extended over twenty-five to thirty days; that of the compresses should extend over three to four weeks, after which the treatment is no longer needed and the patient is liberated.

The author obtained thirty-nine cures in forty cases of this kind thus treated. The orthopedic results were remarkable, the form, length, and solidity of the limb being conserved, and even mobility in many cases. One case was that of a man of 33, who had had nine fistulas at the level of the lower third of the right leg and foot for twenty-one years. In ten months of this treatment he was cured.

It cannot be employed in inaccessible joints like the coxo-femoral. Pains and febrile movement occurring during the treatment are not contra-indications. H.

New Contribution to the Treatment of Epilepsy by Flechsig's Process

Bul. gén. de Thérap. (Oct. 30, 1898, p. 629) takes from Ziehen's article in *Thérap. Monat.* (Aug., 1898) the following account of his use of Flechsig's process. The author is convinced that this treatment, consisting of the combined use of opium and bromides, diminishes for a long time the frequency of the attacks. In one case they were banished for a whole year. The contra-indication arising in the treatment is the development of considerable weakness and also grave heart-lesions.

Ziehen gives a vigorous adult .05 gme. ($\frac{1}{4}$ grn.) three times a day, and increases the dose by about .01 gme. (1-7 grn.) every second day, till the maximum daily dose of 9 gme. (about 14 grn.) is reached in seven weeks.

In children, of 2 to 9 years, the maximum daily dose is 4 gme. (6 grn.); in children 12 to 15 years, 5 gme. ($7\frac{1}{2}$ grn.).

During this period the patient must not take (a) condiments, nor ham; (b) alcohol; (c) tea or coffee; (d) nor bouillon. Tobacco and sexual intercourse are also forbidden.

Rest of mind and body is enjoined as far as practicable. Voisin's hydrotherapy is also employed during this period.

The secondary harmful effects from the opium are anorexia and constipation. He gives HCl for the former, and massage and regulated diet for the latter.

The opium is dropped suddenly and the bromides are given in daily doses of 6 to 9 gme. (3 iss to 3 iiss). The patient is con-

stantly under the physician's observation, the danger-period being under the bromides, from cardiac failure and bronchial catarrh. The absence of the corneal reflex is Ziehen's sign of intoxication by the bromides. The dose of the bromides is kept up for a year; they should not be suppressed. H.

Paralysis Cured by the Extraction of a Tooth

Mühl-Kühner (*Munch. med. Woch.*, 1898, p. 951), dentist, reports the following case: A young woman, 24 years old, had been suffering with paralysis of the right arm and the right side of the neck for two and a half years. This paralysis was thought to be the result of a fall, in which her right arm was fractured. When in spite of proper treatment there was no improvement an operation was advised. As she had some trouble with her teeth, she applied to the writer for treatment. He filled several teeth, and the upper right wisdom-tooth being deeply carious, was extracted. On the following day the patient came to the author, declaring with joy that the paralysis had disappeared and that she was able to move the former paralyzed parts with perfect freedom. (A similar case was reported by Dr. Semmell in the *Carr. Bl. f. Zahn-ärzte*, April, 1898, p. 189.) R.

Brain-tumor and Optic Neuritis

W. C. Krauss (*New York Med. Jour.*, Vol. LXVIII, p. 611), having studied carefully a hundred cases of brain-tumor in which an ophthalmoscopic examination had been made for the presence or absence of choked disc (optic neuritis), announces the following conclusions:

1. Optic neuritis is present in about 90 per cent. of all cases of brain-tumor.
2. It is more often present in cerebral than in cerebellar cases.
3. The location of the tumor exerts little influence over the appearance of the papillitis.
4. The size and nature of the tumor exert but little influence over the production of the papillitis.
5. Tumors of slow growth are less liable to be accompanied with optic neuritis than those of rapid growth.
6. It is probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved.
7. It is doubtful whether increased intracranial pressure is solely and alone responsible for the production of an optic neuritis in cases of brain-tumor.

R.

SURGERY

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Fads and Fallacies of Rectal Surgery

To the Manley operation for internal hemorrhoids, L. Straus (*Louisville Jour. Surg. and Med.*, July, 1898) makes the following objections: 1. Cocainization of the sphincters sufficient to make the operation painless, would endanger life. 2. Complete anal dilatation is necessary; if this were done efficiently serious shock would result unless a general anesthetic were given; this is especially the case in women. 3. Complete crushing of the tunics of the tumor is tedious, painful, and dangerous. Any procedure which requires the bringing about of a condition over which we have no control is unsurgical and unscientific. Outerbridge's operation for hemorrhoids receives the following criticisms: 1. For this operation, complete paralysis of the sphincters is required; complete divulsion should not be practised in all cases, certainly not in tubercular cases. 2. It is a long and bloody operation. 3. If union does not come by first intention, pus may form, and the result may be anything but satisfactory if not absolutely dangerous, because of the increased chances of sepsis. Should the suture give way the wound must heal by granulation over a large surface.

G.

Contusions of the Abdomen

Abdominal contusions rank among the most trying cases the surgeon has to deal with. It is not only the high mortality accompanying these injuries that makes them serious, but also the fact that the concomitant general symptoms greatly increase the difficulty of an exact localization of the traumatism. At the sixth sitting of the Aertztlichen Vereins München, in May, 1898, A. Schmitt, in discussing the subject, said that of seven cases observed during the past year only one had escaped death. Furthermore, the gravity of the first appearances and intensity of shock afford no criterion of the imminence of danger, for even in the most severe cases the general condition may be relatively good till the end. Rupture of the bowel, the most distressing complication, in addition to the usually readily diagnosed internal hemorrhage, is not easy of early detection, as both the subjective and objective symptoms, tympanites, meteorism, etc., do not appear until some time after the injury. Absence of liver-dulness, usually accepted

as pathognomonic of perforation, is not always to be observed. A definitely localized pain much increased by pressure is regarded as a sign of great importance by Schmitt, and in many instances a highly tympanitic note may be elicited over this point from the very beginning, which confirms the diagnosis. In consideration of the fact that in unoperated cases of bowel-rupture the death-rate is 97 per cent. in all instances of severe abdominal contusion, an exploratory incision is absolutely indicated and should be made if possible within twelve hours of the injury.

J.

Intermittent Hydronephrosis Cured by a Ureteroplastic Operation

J. W. Elliot (*Bost. Med. and Surg. Jour.*, Vol CXXXIX, No. 6, p. 133) reports a case of the above, giving a history of intermittent pain in the back and right lumbar region, accompanied by nausea and vomiting, the attacks coming on at intervals of three or four weeks. A tumor also showed itself on the right side at times, disappearing almost as rapidly. An increased quantity of urine following upon the latter, operation was finally decided upon, the kidney, greatly increased in size, being exposed by a lumbar incision. The dissection was carried along the under side of the kidney. The pelvis was seen lying in folds and somewhat adherent to the surrounding fat. The distance between ureter and calices was found to be five inches. The pelvis was opened by a transverse incision one and one quarter inches long, the mouth of the ureter being directly beneath the opening. About the ureteral opening was a raised ring one-eighth inch in diameter, consisting of fibrous tissue, which acted apparently as a sort of dam. No stone or other disease was found. The obstruction to the urine was, therefore, apparently due to a valve-action of the pelvis, it appearing as if a certain amount of urine collected therein behind the raised end of the ureter, causing the pelvis to sag and press on the ureter, closing it completely. The mouth of the ureter was laid open by an incision through the raised ring and extending one-half inch downward. The incision was made toward the dilated sac of the pelvis on the inner side of the ureter to form a channel for the flow of urine. The sides of this longitudinal incision were pulled apart until the ends could be united in the middle, thus changing the line into a horizontal one (like pyloroplasty). In this position the cut edges were united by catgut sutures inside the pelvis of the kidney, shown by illustrations accompanying. A bougie was left in the ureter, and a drain-

age-tube and gauze packed into the pelvis, the outside wound being partially closed. The bougie was removed in three days. A moderate pyelitis followed, while the wound remained open, which was much benefited by washing out the pelvis. There was no sign of a recurrence of the hydro-nephrosis. L.

Thrombosis of the Lateral Sinus Dependent upon Suppurative Otitis Media

C. B. Deuch (*Laryngoscope*, Aug., 1898) believes: 1. That a complete and prompt mastoid operation in every case, is indicated. This means the removal of all softened bone, no matter what structures may be exposed during the operation. 2. That early surgical intervention is admissible in all cases of sinus thrombosis, whether discovered during the mastoid operation or recognized by constitutional symptoms. 3. That the advisability of interference with the internal jugular vein depends upon the presence of symptoms indicative of jugular thrombosis in any particular case. G.

Drainage in Suppurative Appendicitis

A. McLean (*Med. Age*, Vol. XVI, No. 20, 1898) concludes that:

1. Where pus is present, tubing should be used, for gauze will not free a cavity of pus.

2. Where inflammatory transudate or exudate is present gauze proves the most satisfactory.

3. Where gauze drainage is used in the peritoneal cavity the external end should be lower than the internal, allowing much freer action.

4. Mixed drainage is to be recommended where septic peritonitis accompanies suppurative appendicitis.

5. Drainage should be dispensed with as soon as possible, and the external wound allowed to unite, for the sooner the union the better, and the chances of a ventral hernia following are less. S.

Influence of Traumatism on Certain Mental Affections

At a meeting of the Quebec Medico-Psychological Society (*Montr. Med. Jour.*, p. 785, 1898) A. Vallée reported a case tending to demonstrate the influence of traumatism on certain mental affections. The patient, a man of 62, was admitted to the Quebec Insane Asylum, suffering for the last few months from a severe attack of melancholia, brought on by great pecuniary troubles and alcoholic excesses. He was very sad and depressed, believing himself to be damned for ninety-nine years.

Nothing could distract him for a moment, and he opposed a passive resistance to all exhortations. His general health gradually gave way, under the influence of this great moral depression complicated by insomnia and sitophobia, and he became very weak and emaciated. About two months after being admitted to the hospital, the author was suddenly called to see the patient, to extract a foreign body which he had thrust in his eye. The patient was perfectly silent. The doctor perceived a black spot at the internal angle of the eye, it was the head of the nail. The doctor extracted it immediately; the nail was four inches long. Alarming symptoms soon appeared; face very pale, extremities cold, pulse thready, left arm and leg paralyzed. The next day he rallied a little, but the hemiplegia continued. On the following day convulsions set in over the face, over neck and left arm, lasting about twenty-four hours. After three or four days the patient got up, all his nervous symptoms disappeared, his general health and mental condition continued to improve gradually. In about a month after the accident he was able to walk by himself; his memory was good, but he could not explain why he thrust the nail in his eye. In another two weeks he was perfectly well. Another case came under the doctor's notice. A patient was admitted suffering from a violent attack of acute mania. A few weeks after admission he quarrelled with another patient and his thumb was bitten very deeply. Immediately he was taken with intense nervous trembling, which lasted for about an hour. As soon as this trembling stopped he became conscious, began to improve rapidly, and left the asylum perfectly cured a few days after. R.

Suture of Crucial Ligaments for Injury to the Knee-joint

Battle, at St. Thomas' Hospital (*Med. Press*, Vol. CXVII, No. 7, p. 168), performed the rare operation of suture of the crucial ligaments, the patient having received a severe injury to the knee by falling between a railway carriage and the platform. There was no fracture of bone. It was found that little if any improvement in the mobility of the joint was obtained by the use of an anesthetic, whereas backward displacement of the tibia and the femur readily produced, indicated a rupture of the anterior crucial ligament. A horse-shoe-shaped incision was made over the front of the joint, and it was found that the inter-condyloid notch was occupied by some structure behind the patella. The capsule of the knee-joint on the inner

side had been torn, and structures on the inner side of the joint drawn in between the bones. The anterior crucial ligament had been torn irregularly, part of its attachment to the external condyle having been pulled away; it was possible, however, to suture it to the remains of the ligament, by two silk sutures. The internal lateral ligament was then sutured; a suture inserted into the capsule on the inner side of the joint, and three sutures uniting the cut ligamentum patellæ. The writer claims the injury as being an unusual one. There was no doubt that the displaced muscular band which was doubled under the patella prevented the return of that bone to its normal position and formed the obstruction to the flexion of the joint. The limb was placed in plaster of Paris from the hip to the ankle. L.

Three Hundred and Sixty Gall-stone Laparotomies

Hans Kehr (*Volkmann's Klinische Vorträge*, No. 225, Oct., 1898) condenses his experience during the past eight years in the surgical treatment of cholelithiasis. It is significant that nearly half of the whole number of operations recorded has been done since 1896. The total number of patients was 307, 255 being women, and fifty-two men; the mortality was 11.7 per cent. However, of the forty-two deaths reported thirty were due to causes not directly traceable to the operation (advanced stages of carcinoma, purulent cholangitis, etc.), thus reducing the actual death-rate to 3.8 per cent. Kehr attributes much of his success to the very rigid asepsis practised: he does not use rubber gloves, but his method of sterilizing the hands takes about a half-hour, and to diminish sources of infection all his operations are done with but one assistant and one nurse. Another point of importance is the careful preparation of the patient by means of purgation and bathing. The cases operated on may be classified as follows:

1. Those in which the calculi were situated either in the gall-bladder itself or in the cystic duct and admitted of removal by cystostomy, cysticotomy, etc., 180 operations were done, of these 128 were immediate, and five two-staged, cystostomies, seven were cystendyses, thirty-seven cysticotomies, two extraperitoneal "ideal" cystotomies, and one cysticolithotripsy; although inflammation and suppuration were present in two-thirds of the cases, only three deaths resulted.

2. The condition of the gall-bladder was such that it was either useless to the individual or even a source of danger,

through the presence of ulcers, fistulas, etc. In these, as in other cases where cystectomy seemed less difficult than cystotomy, complete extirpation of the viscus was practised.

3. The calculi had already gained the common duct; in forty-six instances they were removed by choledochotomy, and in one by choledochotripsy. There were four deaths.

4. Nineteen cases in which, instead of the suspected gall-stones, other morbid processes were found, such as gastric ulcer, floating kidney, etc., or the gall-bladder was free from calculi, but had contracted adhesions to intestine, stomach, or belly-wall.

5. Besides the cholelithiasis there were present as complications advanced carcinoma of liver, common bile-duct, stomach, pancreas, diffuse purulent cholangitis, cirrhosis of liver, septic peritonitis, etc., which make treatment difficult or impossible, forty-six cases, twenty-seven ending fatally. What is needed is greater care and skill in diagnosis; an effort should always be made to recognize one of the following conditions:

1. Gall-stones in gall-bladder without occlusion of cystic duct; apt to be confounded with gastric affections.

2. Gall-stones in the gall-bladder with temporary occlusion of the cystic duct.

3. Cholecystitis, hydrops, and empyema of gall-bladder.

4. Pericholecystitis, adhesions.

5. Acute occlusion of common bile-duct.

6. Chronic occlusion of common bile-duct.

Jaundice is usually absent in conditions 1-4; in 5 and 6 it is generally, but not always, present.

The conclusion is that in suitable cases operation is to be recommended, it affords immediate and permanent relief (not a single case of recurrence was observed) and the patient's chances are better the sooner his condition is recognized and subjected to surgical treatment. J.

A Clinical and Histological Study of Certain Adenocarcinomata of the Breast

Dr. U. S. Halsted (*Am. Surg., Phila.*, Vol. XXVIII, p. 557-576, 1898) calls attention to "one or two quite rare but definite varieties of breast cancer."

Case I, a recurrent tumor which proved to be an adenocarcinoma, having the majority of the cells still retaining the tendency towards acini-formation.

Case II, adenocarcinoma, in which the tubules were much larger than in case I, and contained cells which almost entirely retained their ability to make "cell-combina-

tions." The cancer alveoli occupied the stroma of the adenoma.

Case III. A scirrhous carcinoma and intracanalicular papillary adenocarcinoma ("duct cancer"). This tumor consisted of a number of cysts, some of which contained papillomas of a malignant variety. In the walls of the cyst the cancer proper developed.

Case IV. A malignant adenoma in which the type had remained pure, *i. e.*, no true cancer cells were found.

Case V. Malignant adenoma.

Case VI. Malignant adenoma. In this case there were numerous nodules scattered through the breast, none of which was attached to the skin. There are also a number of small cysts, both outside of and within the nodules. Prof. Halsted's present operation for breast cancer is even more radical than that described in his first publications. He now cleans out the supra-, as well as the infra-clavicular regions in every case. This is done without dividing the clavicle. Results of the operations are as follows: There have been 9 per cent. local and 16 per cent. regional recurrences. Forty-one per cent. are living without sign of recurrence or metatarsis three years after the operation. T.

Castration for Encysted Hydrocele of the Epididymis

W. Turner. (*Med. Press*, Vol. CXVII, No. 6, p. 145) reports a case which he had had under observation for two and one-half years for swelling in the left side of the scrotum. This swelling, about the size of an egg, which had been tapped about five times, was finally diagnosed as an encysted hydrocele of the epididymis, the fluid withdrawn being opalescent and containing living and dead spermatozoa. Castration was then performed. L.

Bone-Grafting

Berger, at the meeting of the Académie de Médecine (*Med. Press*, Vol. CXVII, No. 12, p. 304), cites two cases of bone-grafting. One was that of a woman who had been operated upon for a large osteosarcoma situated over the sacrum, and a portion of that bone in its inferior part had to be removed. To replace the loss of substance a fragment of the coccyx of a dog were grafted, and five years afterwards the osseous graft was found to have persisted, contrary to the views expressed by Ollier, Moss, and other surgeons, which were that inter-animal osseous grafts became in time absorbed, and replaced by fibrous tissue. The second case was one presenting a de-

formity of the nose, due to the destruction of the septum, causing a breaking down of the osseous portion. The skin was slit down in the median line, dissected on each side from the mucous membrane, and the fourth metatarsal bone of one of the feet, giving it the proper form, was placed on the dorsal region of the nose, and the skin sutured over it. The graft was tolerated and the deformity corrected, but in time the osseous transplantation was absorbed, leaving in its place a mass of elastic fibrous tissue sufficiently resisting to maintain the form of the nose. L.

Traumatic Dislocation of Both Testicles

A remarkable case of severe injury followed by no lasting bad results is reported by Halfdan Bryn (*Norsk Magazin for Lægevidens Kaben*, No. 10, 1898). A man 59 years old was run over by a heavily loaded truck, one of the wheels passing obliquely over the scrotum and right lumbar region. Two days later the scrotum, on examination, was found completely empty, while the abdomen was of exquisite sensitiveness, and extremely painful. The inguinal canals were also empty, but a finger passed through the external ring and aided by the other hand on the abdomen detected on each side a tumor the size of a walnut. By careful manipulation each testicle was brought within the internal inguinal ring, after which it was easy to slip it back to its normal resting-place in the scrotum. Neither hematocele nor hydrocele resulted. J.

Foreign Body Removed by External Esophagotomy

Mœnnier (*Gaz. des Hop.*, No. 64, 1898) describes the case. A year before examination the patient, a child, had swallowed a one-franc piece, which occasioned much spasm, dyspnea, etc., for a few days. The symptoms gradually abated, and for nearly a year the only difficulty was the inability to swallow solid food; the general health remained good. The author located the coin by means of the Röntgen rays, finding it opposite the intervertebral disk, between the second and third dorsal vertebræ. Esophagotomy was performed, the external incision running from the sternoclavicular articulation to the mastoid process, and the foreign body found just where the radiograph had indicated, close behind the bifurcation of the bronchi. It was removed with curved forceps, the esophagus sutured and the wound left to heal by second intention, a perfect recovery resulting.

OBSTETRICS AND GYNECOLOGY

EDWARD N. LIELL, M.D. HERMAN B. SHEFFIELD, M.D.

The Vomiting of Pregnancy

Dr. Bacon thus summarizes an article on the subject (*Amer. Jour. of Med. Science*, June, 1898):

1. The abnormal irritability of the nervous system, including the vomiting center, is to be allayed by keeping the patient in the horizontal position, by attention to the skin, bowels, and kidneys, using rectal, and, if necessary, hypodermic injections of salt-solution.

2. The hysterical condition which is so commonly present should be controlled by strengthening the will and influencing the dominant idea of the patient.

3. All sources of peripheral irritation should be discovered and treated.

4. In extreme cases subcutaneous saline injections serve the three-fold purpose of: (a) diluting the blood and increasing vascular tension; (b) eliminating toxins through renal and intestinal emunctories; (c) furnishing two most important kinds of food.

5. Induction of abortion is never indicated. At a stage when it is safe and efficient it is not necessary, and in extreme cases it adds greatly to the danger, rarely stops the vomiting, and can be replaced by the artificial serum. R.

Puerperal Thrombosis and Embolism

Dr. Singer (*Arch. f. Gyn.*, Vol. LVI, No. 1, 1898, p. 218-263) relates thirty-five cases of embolism and thrombosis following childbirth. He confirms the view of Dr. Mahler, who first called attention to the fact that the pulse is the most noteworthy danger-signal of this very grave complication. A gradual acceleration of the pulse, with a graded ascent of the sphygmographic wave out of all proportion to the temperature, indicated an infection of the patient, with the probability of an approaching thrombosis. With this symptom we usually find also severe headache, excruciating pains along the course of the veins of the lower extremities, slight dyspneic attacks, pains in the pleuræ, and occasionally, when pulmonary thrombosis occurs, a blowing sound over the pulmonary vessels. Should one or more of these symptoms appear, it is very important that the patient be kept absolutely quiet. Dr. Singer reviewed all the cases of thrombosis or embolism, and found that in about 90 per cent. of them quickening of the pulse

occurred and preceded the other manifestations. The lancinating lightning-like pains in the legs are also an early symptom.

The etiology of puerperal thrombosis is mainly inflammatory. In all the patients pelvic peritonitis, parametritis, fetid lochia, and ulceration of the vulva and vagina have been noted. In twelve cases gonococci were found, in three streptococci, in three staphylococci, and in a few cases mixed infection of gonococci and streptococci were noted. In the rest of the cases in which germs could not be found the infection was probably gonorrheal, as there is a great tendency for the gonorrheal material to spread beyond the uterine veins and to enter the general circulation.

The writer thus concludes that:

1. The formation of a thrombus is announced by a gradual rise of the pulse. The acme of its frequency coincides with the development of the thrombus and the appearance of the lung-symptoms.

2. The pulse-rate accompanying the thrombus is characteristic.

3. In a typical thrombosis the pulse ascends while the temperature remains normal. With the appearance of edema or pulmonary symptoms the pulse rises, however; at times also the temperature; but while the latter subsides within a short time the pulse remains quick for several days.

4. At times there is an exception to this.

5. In these cases we must examine the secretions for the etiological factors of the inflammation; and, as a rule, gonococci will be found there.

6. In the treatment of puerperal thrombosis an early diagnosis is of prime importance; this can easily be established by the characteristic acceleration of the pulse.

7. Complete rest in recumbent posture must be insisted upon, and even after the return of the normal pulse-rate, it is advisable to keep the patient in bed for about three weeks. S.

Neuropathic Uterine Complaints

B. F. Garrison (*Tex. Cour.-Rec. of Med.*, June, 1898) believes that all women who complain of uterine symptoms do not have uterine disease; symptoms, such as headache, napeache, backache, etc., may be due solely to nerve-exhaustion or malnutrition, and not to reflex action from some real or fancied uterine disorder. Moreover, uterine lesions are often only symptoms, and will get well without local applications if treatment of the essential organs involved is instituted. The imponderable are great forces in nature, simple mental stimuli to unstable nerve-molecules will awaken many reflexes, uterine among others. Here malnutrition,

overstudy, bad ventilation, costiveness, torpid liver, and other conditions referable to the various organs are to be considered; not the pelvic organs in many cases. Many of the symptoms of neurasthenia and hysteria are almost analogous to those of uterine disease, such as difficult locomotion, bearing-down pains, headache, backache, pain in the left ovary, and spinal irritation, wakefulness, weariness, cold hands and feet, an irritable bladder, etc. As to treatment, there are five ends to be secured: Nutrition; with these patients there is either no appetite or they reject wholesome food. Iron with malt, skimmed milk, and then solid food at regular hours can be given. Sleep, rest of body and mind, freedom from pain, and equable circulation are the other essentials. Electricity and massage are useful.

Trophoneuroses of the Uterus

The disorder characterized as trophoneuroses of the uterus is one of not infrequent occurrence, and one to which J. Oliver (*Edin. Med. Jour.*, Vol. XLVI, No. 519, p. 255) has, for several years, drawn the attention of his clinical assistants. The existence of trophic nerves has not as yet been satisfactorily demonstrated, although it is probable that the uterine nutritive processes are to some extent dominated by nerves of a trophic nature, which, according to the writer's opinion, are supported by facts. When the physico-chemical state of the muscular tissue of the uterus is more or less extensively deranged, in consequence of an impairment of its nutritive processes, the organ becomes so weakened that it assumes a dependent position. Retroversion is the variety of displacement that most commonly results. The consistence suffers as well as the position of the uterus. There is often a marked diminution in the amount of the menstrual discharge, or its recurrence may be at times delayed. Menorrhagia and dysmenorrhea are also complained of.

L.

Hysterectomy for Removal of Large Uterine Myomata by the Combined Vaginal and Abdominal Methods

As the value of any method must depend upon the success with which it enables the operator to avoid dangerous complications, D. P. Allen, Cleveland (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 21, p. 485), after enumerating the dangers attending the operation of hysterectomy, summarizes the advantages of the combined vaginal and abdominal methods as follows: 1. The vaginal part of the operation is performed while the abdomen is still unopened,

and it is the writer's belief that, inasmuch as this shortens the time required for the removal of the uterus after the abdominal cavity is widely opened, it is greatly to the patient's advantage. This is for the reason that the shock incident to prolonged operations in the abdominal cavity is often proportionately greater than in other operations. 2. The division of the vaginal vault by the cautery requires but a short time, and is accompanied by little if any hemorrhage. This shortens the time required to control the bleeding, which often occurs when the vaginal vault is divided from the side of the abdomen. 3. Owing to the fact that the patient is anesthetized, it is possible to curette, disinfect, and pack the cervical canal and disinfect the vaginal vault. After dividing the vaginal vault, the tissues of the cervix may be thoroughly cauterized and the field of operation rendered sterile.

L.

Gynecological Axioms

A. Goelet (*Virg. Med. Semi-Monthly*, Vol. III, No. 9, p. 244) offers the following:

1. Never use a pessary, except as a temporary or auxiliary support. Alone, it is powerless to effect a cure.

2. Never permit a patient wearing a pessary to pass from under observation. Make her understand that it is a foreign body placed temporarily in the vagina, and that it requires watching.

3. Never think a pessary can do no harm as long as it is producing no discomfort. If retained too long it may do serious damage without the knowledge of the patient.

4. Never retain a pessary if it is producing the least discomfort. Remove it or readjust it without delay. It is a mistake to think the parts will become accustomed to its presence and the pressure.

5. Never fail to impress on the patient the importance of daily vaginal douches while wearing a pessary.

6. Never let the patient think a pessary will cure her. She will discover the truth some day and you will lose her as a patient.

7. Never insert a pessary immediately upon discovery of the malposition, but first prepare the parts for it by appropriate treatment.

8. Never use a sound or repositor for correcting the misplacement, or for making a diagnosis. It is unnecessary and dangerous. (Herein experience does not accord with that of the writer concerning the use of the repositor. The latter's action is upon an antero-posterior axis, similar to that of the uterus; its use is necessary in the replacement of the retroverted uterus, preliminary to the introduction of a pessary. A retroverted uterus readily replaced

by the finger alone is rarely in need of treatment, since it seldom gives rise to severe symptoms. The use of the sound, however, in endeavoring to replace a retroverted uterus is out of the question, since its action must be upon a lateral axis, and thus injury may readily be done.)

9. Never introduce a pessary unless the uterus is freely movable and can be replaced by manipulation.

10. Never permit a patient to leave the consulting-room with a pessary that is producing the least discomfort. She should never be conscious of its presence.

11. Never be satisfied with a pessary unless it rectifies the malposition. If it does not accomplish this it is useless, and it may create some serious disturbance.

12. Never fail to seek the cause of the misplacement and endeavor to remove it. To lose sight of this means failure. L.

Eclampsism

Dr. M. Bar (*Med. Rev.*, Vol. XXXVII, No. 26, 1898) proposes to call puerperal eclampsia without convulsions by the above name. In eclampsia, the author says, the occurrence of convulsions is a capital feature, and it aggravates the prognosis very decidedly, but what needs to be known is the fact that there are a good many cases in which no convulsions take place, but, instead, the patient is attacked by very intense neuralgia, nausea, diarrhea, or some other striking symptoms. Such cases may prove fatal, and that speedily. Bar seems to have been the first to take cognizance of this condition, but his remarks on the occasion in question were called forth by the histories of two cases reported by Dr. Budin at a meeting of the Obstetrical Society of France.

Budin's first case was that of a primipara, aged 31 years, who had arrived at term, and was brought to the Maternity December 16, 1897. She had prodromes of eclampsia, and there was a notable amount of albumin in her urine. She also had gastralgia, headache, disturbances of vision, and a cerebral condition which Budin simply called "singular" without describing it. She was delivered spontaneously of a living child, and the delivery was followed by hemorrhage which, although the amount of blood lost did not exceed twenty-five ounces, called for artificial delivery of the placenta. After this the prodromes of eclampsia became more pronounced, her general condition grew worse, and in spite of every care she died in seven hours, without having had a convulsion. At the post-mortem examination the characteristic renal lesions were found, and the liver presented ecchymotic

spots having the geographical contours seen in cases of eclampsia.

The second patient was also a primipara, who continually had "oppression." At the time of her entering the Clinique Tannier, March 15, she had albumin in the urine, visual disturbances, etc. She was considered to be in imminent danger of eclampsia, and was treated accordingly. She was delivered a week later without having had a convulsion, although at every instance one was expected to occur. The placenta showed patches of atrophy and numerous hemorrhages—some old and others recent. This woman recovered.

It is very important, says Budin, to observe the premonitory symptoms of eclampsia. Patients may have self-intoxication, and be found in a real state of eclampsia, without having any convulsive attack. Formerly convulsive seizures were looked upon as the characteristic mark of eclampsia; they are still the cardinal feature in the majority of cases, but they are only one among numerous symptoms of self-intoxication; they are the most striking, but the others should not be overlooked, either from the diagnostic or from the therapeutical view. S.

A Plea in Defense of Pessaries

A. Duke (*Med. Press and Circ.*, Vol. CXVI, No. 22, p. 569) refers to the fact that the comparative immunity from risk assured by the employment of aseptic or antiseptic measures has contributed to the modern craze for operations, and this even in cases where the wearing of a properly fitted pessary combined with suitable general treatment, would have met the case and in time effected a cure. He also refers to the observation of Dr. Emmet that "From some members of the profession the opposition to the use of pessaries is as denunciatory as if they were condemning a species of malpractice. This opposition may be sincere, but it is conclusive evidence of their ignorance." The writer has also met with patients who, from the great discomfort entailed by a badly fitting pessary or hurry to get well at once, and also by the ill-judged advice of so-called friends, have firmly refused to wear an instrument and foolishly submitted to a severe operation on the mere chance, at best, of obtaining a quick and permanent cure. Few gynecologists even, comparatively speaking, possess the decided mechanical talent required to fit a pessary properly so that it can do no harm. The patient, who obtains relief from a well-fitting pessary, is not likely to expose herself to the risk of a cutting operation, even when performed by skilful hands. L.

Chloroform in Parturition

Futrel (*Med. World*, No. 6, 1898, p. 244) advocates the use of chloroform in every case of labor unless distinctly contraindicated by some grave pathologic lesion. During gestation the heart undergoes a normal hypertrophy, and consequently acquires an increase of capacity that serves to give quite a resisting power against the depressing influences which have been charged against the use of chloroform in labor. The author summarizes his reasons for his advocacy of chloroform in practically every case of labor as follows:

1. It shortens the period.
2. It prevents shock and exhaustion.
3. It reduces the liability of the cervix and peritoneum to rupture.
4. It does not affect the child if properly used.
5. It does not produce uterine inertia.
6. It does not induce post-partum hemorrhage.
7. It is more pleasant to inhale and less irritant to air-passages than ether.
8. It is not inflammable.
9. It is prompt in its effect.
10. Statistics and experience show that it is perfectly safe during labor when properly administered.
11. It assists the woman in her expulsive efforts by obtunding her sensibility to the pain thus produced.
12. It does not arrest the contractions of the uterus or abdominal muscles.
13. It weakens the natural resistance of the perineal muscle.
14. It renders great service to women who dread pain.
15. It diminishes the chances of the nervous crises, which are caused during labor by the excess of suffering.
16. It makes recovery more rapid.
17. It calms the great cerebral excitement which labor produces in nervous women.

The Female Genitals and Forensic Medicine

Adolf Calmann (*Arch. f. Gynakologie*, 55, 1898, p. 454) presents the results of a series of examinations of the female genitals, determining their relative sensitiveness, with the view of using the data in medico-legal investigations. He tried to ascertain if a woman could tell whether an instrument was introduced into the urethra or into the cervix, or, in other words, if she could localize the sensations definitely. He comes to the general conclusions that the degree of acuteness for determining place is poorly developed in the female genitals. The differences between ureter, blad-

der, and vagina are not sure, and as for differentiation of the vagina, cervix, and body of the uterus, few women could tell at all. The perception for size and character of objects is just as poorly developed. The sense of pressure is well developed in the ureter, not so well in the vagina, and almost absent in the uterus. The temperature-sense is well developed in the ureter, in the vagina it is quite weak, and in the cervix and uterus lacking. Painful irritations are acute in the ureter, less so in the vagina, almost absent in the cervix and uterus. J.

Hematoma of the Ovary

W. H. Baker (*Bost. Med. and Surg. Jour.*, Vol. CXXXVIII, No. 23, p. 546) reports a case of hematoma of the ovary, the interest lying in the ability to remove a portion of one ovary and leaving a sufficient amount of normal ovarian structure for future usefulness, which, in a person 29 years of age, is an important consideration. It is also of interest as proving what the writer has observed in all similar cases that have come within his experience, as follows: 1. That hematoma of the ovary almost always affects both ovaries. 2. That it is invariably accompanied by dense adhesions to the surrounding parts. 3. On account of the friable condition of the ovarian structure in these cases the sac invariably bursts in its removal. 4. That the discharge of the contents of the sac, if ordinary precautions are taken in regard to cleansing either by sponges or washings, does not complicate the recovery of the patient. L.

Urotropine in Cystitis

T. Gordon Kelly (*The Therapist*, Oct. 15, 1898), used urotropine in the treatment of three cases of cystitis and found it a reliable and satisfactory urinary antiseptic. In the third and most serious case the cystitis was of fifteen years standing and complicated by attacks of profuse hematuria. Twenty grn. of urotropine were given twice a day. In six days the urine became clearer, but still remained alkaline. Small doses of acid dil. sulphuric oil were given three times a day in addition to the urotropine, and in three days more the urine became clear and slightly acid, and on the fourteenth free from pus.

Fifteen grn. were then given twice a day for a month, at the end of which time the dose was reduced to 7½ grn. twice a day.

The patient's urine has remained up to the present (five months) perfectly clear and free from pus.

THERAPEUTICS, PRACTICAL AND EXPERIMENTAL

WILLIAM FANKHAUSER, M.D., WILLIAM J. ROBINSON, M.D.

Caustic Paste for Dermatotherapeutic Use

Unna recommends (*Sem. méd.*, XVIII, p. 162) the following formula as a caustic paste for dermatotherapeutic use:

Caustic Potassa	5 parts
Calcined Lime.....	5 parts
Black Soap.....	5 parts
Distilled Water.....	5 parts
Mix, and add:	
Morphine Alkaloid	1 or 2 parts

This paste, which the soap and water render unctuous, and in which the lime prevents the too rapid action of the atmospheric carbonic acid on the potassa, may be advantageously employed in certain localized cutaneous lesions. The paste is easily tolerated, due to the morphine present in it, as the pain, which is at first quite sharp, rapidly diminishes and entirely disappears in half an hour, no longer being felt even when the paste is permitted to exercise its caustic action for twenty-four hours. On account of the considerable proportion of morphine present, however, the paste can only be applied to limited areas. F.

Nascent Iron Iodide in the Treatment of Tumefactions in the Cervical Ganglia of Children

Katchénovsky (*Sem. méd.*, XVIII, p. 194) states that he has had considerable success in effecting the rapid disappearance of ganglionic infiltrations of the neck, so frequent in children, by means of two mixtures, one containing 4 gme. (60 grn.) of potassium iodide and 180 gme. (6 fl. oz.) of water, and the other being an ethereal tincture of iron malate. At each meal, a dessertspoonful to a tablespoonful of the iodide solution, to which have been added from 3 to 20 drops of the tincture, is given to the patient. The nascent iron iodide so formed exercises a much more energetic resolvent effect on the tumefied lymphatic ganglia than iron iodide or potassium iodide ordinarily does. F.

The Thyroid and Hypophysis in Cretins

From an examination of five cretins and one well-developed individual with cretin-like habit, W. de Coulon (*Virchow's Archiv.*, Vol. 147, p. 53) describes the changes taking place in the thyroid and the hypophysis. In all of these cases there was some thyroid tissue still persisting, though the cell-changes observed were sufficient to indicate

a loss of function. The glandular acini were smaller, some were absent and new connective tissue took the place of the regular glandular tissue. The colloid substances were absent in the majority of the alveoli, and when present it was thicker, more refractile to light, and showed evidences of mucinoid degeneration. The epithelial glandular elements throughout showed the characters of degeneration, hyperchromatosis of the periphery, clumped, and irregular nuclei or markedly swollen by reason of the withdrawal of the cell sap. The examination of the hypophysis would seem to show a similar condition of simple atrophy in this organ. J.

Ichthylol in Appendicitis

Dr. Fuchtenbusch, of Grand Rapids, Mich., writes that he recently had two cases of appendicitis under treatment, in both of which undiluted ichthylol was painted over the ileocecal region twice daily and ice-bags applied. In the graver of the two, which was referred to him in a greatly neglected condition, ichthalbin was exhibited internally as well. The writer believes that in this case an operation was avoided only by the simultaneous employment of ichthylol and ichthalbin. Both patients, aged 11 and 9 years respectively, no longer had any fever when discharged, nor was there any tenderness on pressure over the ileocecal region. The action of the ichthalbin on the bowels was very beneficial. F.

Antiseptic Treatment of Whooping-cough

Lacomme and Mercier (*Jour. de Cliniq. et de Thérap.*, No. 39, Sept. 29, 1898) contribute the results of their experience in the treatment of whooping-cough, having regard especially to the contagious disease germs. They regard the expired air of the affected one to be laden with the infective germs. They regard the winter attacks as more severe than those at other seasons for the reason that the patients are kept within doors too much, to the effect that germs are accumulated in the air of the rooms occupied and that the mucous secretions are rendered more abundant and thus more favorable for culture of germs. The outside air always diminishes the intensity of the attacks.

The first indication is to refrain from administering internally drugs that arrest cough by lessening the action of the respiratory muscles. Obstruction increases intensity of infection.

The germs develop rapidly, but have feeble resistance. Removal of patients from their sleeping apartments daily and

thorough disinfection of them by some weak disinfectant ameliorates the conditions for the patient. The patient is worse at night because the respiration is restricted and the air becomes laden with the germs.

The production of germs must be prevented by keeping the respiratory tracts in an antiseptic state, and the air about the patient must be as constantly disinfected.

To accomplish these ends:

1. Disinfect all clothing of the bed-room as soon as the disease is recognized, also carpets and furniture, employing a sublimate solution when practicable.

2. Keep patient out of doors as much as possible. Air the bed-room daily. Keep patient in the day-time in a different room from the one he occupies at night.

3. Keep all clothes soiled by sputum emitted in coughing, constantly changed and disinfected, either by throwing into boiling water or into an antiseptic solution.

4. Keep child's face, hair, and clothes around head and chest washed with an antiseptic solution as often as three times a day, especially on retiring.

These attentions should be assiduous in proportion to the intensity of the disease.

The antiseptic solution recommended is as follows:

Sulphuric Ether.....	400 cc. (13½ fl. oz.)
Acetic Ether.....	15 cc. (5 fl. oz.)
Alcohol 90 per cent.....	300 cc. (10 fl. oz.)
Salol.....	50 gme. (15 drams)
Carbolic Crystals.....	15 gme. (4 drams)
Oil Lavender.....	25 gme. (7 fl. drams)
Oil Wintergreen.....	25 gme. (6 fl. drams)

Sprays of boric-acid solution in nose and throat and antiseptic gargles are good aids.

Thus treated the duration of the disease is reduced to 10 to 15 days. Vomiting, hemorrhages, and mechanical reflexes are thus avoided.

H.

The Treatment of Coughs

Morris Manges (*New York Med. Jour.*, November 26) relates his experience with a new remedy named heroin, in the treatment of coughs in respiratory diseases. The remedy was very prompt and efficacious in a large number of cases, relief usually following within a half-hour after taking the drug. The cases were of the most varied kind, including acute and chronic bronchitis, emphysema, bronchiectasis, pulmonary tuberculosis, pleurisy, coughing after anesthetics, pneumonia, etc. In some of the cases relief was most surprising, being obtained where other drugs had failed. In pulmonary tuberculosis, especially in the early stages, great relief was reported in quieting the irritating cough, which is so distressing, without any unpleasant after-

effects, provided small doses were administered. Aside from its sedative qualities, heroin was also found to exert an antipyretic influence in tuberculous cases, and the author believes that this action, combined with its effect upon the respiratory centers, permits the hope that heroin will be found of service in the night-sweats of phthisis.

The Physiological Effect of Suprarenal Extract

Dr. Cyon (*Pfueger's Arch. of Phys.*, Vol. LXII, page 370, 1898) concludes that:

1. The extraordinary rise in the blood-pressure after intravenous injection of suprarenal extract is due to stimulation of the vasoconstrictor nerves, the centers in the brain as well as the ganglia in the blood-vessels.

2. The suprarenal extract paralyzes the vagus nerve and the cardiac depressors.

3. It, on the other hand, stimulates the central as well as peripheral ends of the accelerators.

4. The temporary retardation of the heart-beat is produced by the momentary stimulation of the pituitary body which is brought about by the sudden rise of the blood-pressure in the skull.

S.

Atropine in Bronchial Asthma

In a paper read at the last meeting of the German Naturforscher und Aerzte, V. Noorden (*Munch. med. Woch.*, p. 1251, 1898) recommended Trousseau's method of treating asthma, e. g., by atropine. The treatment lasts from four to six weeks, commencing with half a milligram (1-120 grn.) per dose, increasing every 2-3 days by half a milligram, until a dose of 4 milligrams (1-15 grn.) has been reached. After having reached this amount, the dose is again gradually diminished. If the dose is increased so gradually, no injurious by-effects will be noticed, but nevertheless the patient must be under the physician's supervision. On the attack itself, the atropine has no effect, but it prevents future attacks for a long time. Where no permanent cure is achieved by the atropine, there is at least a long-lasting improvement; provided the asthma is not complicated by emphysema and chronic bronchitis.

R.

Benzoin in Scabes

Holstein (*Rev. gén. de Pharm. et d'Hyg. prat.*, Vol. I, p. 5, 1898) reports favorable results through the use of tincture of benzoin in scabes. After the first application the itching ceases and the eruption grows less, cure generally resulting after two or three days' treatment.

REVIEWS

Human Anatomy. A Complete Systematic Treatise. By Various Authors. Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M.A., and M. B. Lond, Senior Surgeon to the Middlesex Hospital. Illustrated by Seven Hundred and Ninety woodcuts, the greater part of which are original and made expressly for this work by Special Artists. Over 200 printed in colors. Second Edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898. Price \$6.00.

This volume is one that is sure to prove of great value to students of anatomy. The practical and systematic way in which each phase of the subject is treated makes it of greater value to the user than some of the older and better-known text-books of anatomy. The illustrations are certainly a great improvement over those of the earlier works. Once let our teachers begin to use it in their classes and we believe they will insist upon its continuance to the exclusion of all rivals. For the general practitioner as a reference-volume when he has to prepare himself for special surgical work it is certainly unexcelled. The names of the men who have written the various chapters are a full guarantee of the accuracy of their contents. The editor has certainly accomplished his object well in making of it "a systematic description of every part and organ of the human body as it is studied in the dissecting-room." Force of habit will probably for a long time to come cause professors and demonstrators of anatomy to continue using the older works, but they should certainly give this one a fair trial.

The Physicians' Visiting List for 1899. Forty-eighth Year of Its Publication. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street.

The size, completeness, and convenience of the contents of this visiting-list commend it to every one who is in search of anything of this kind. It is just adapted to the average coat-pocket and its internal arrangement is so perfect that it leaves nothing to be desired. This is now the time of year when visiting-lists are being bought and in making a selection this one should be seen and compared with its rivals before purchasing.

A Primer of Psychology and Mental Diseases

For Use in Training-schools for Attendants and Nurses and in Medical Classes. By C. B. Burr, M.D., Medical Director of Oak Grove Hospital for Nervous and Mental Diseases, Flint, Mich. Second Edition, Thoroughly Revised. $5\frac{1}{2} \times 7\frac{3}{4}$ inches. Pages ix—116. Extra Cloth, \$1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia; 117 West Forty-second street, New York city; 9 Lakeside Building, 218-220 South Clark street, Chicago, Ill.

We seriously doubt the wisdom of the issuing of a book of this kind either for medical students or for the students of training-schools. The volume is entirely too small to contain in proper form all that the author seeks to teach. As a result of the attempt the product is a piece of pure dogmatism in psychology and the really valuable part of its contents is that treating of mental diseases. Even in the latter so little can be given in so small a scope that only the most crude kind of an idea of the subject as a whole can be ob-

tained. The psychology the author seeks to teach can be fairly contested as to its truth at many points. The definition of life with which he starts out appears to be both defective and redundant as well as containing words which it uses in a wholly unscientific manner. It speaks of "matter and force" where it appears evident that the intent is "matter and energy." Every step of the definition needs defining so as to be able to understand what it really means. A strict adherence to the exact meaning of the words of the definition would compel the author either to acknowledge that crystals are alive or that many plants are not. It is customary to divide the senses into five, but the author adds the muscular sense as a sixth. Why did he not add a thermal sense, a sense of pain, a sense of fatigue, and other senses that have an equal right to recognition? Better still, why did he not say that our division is an arbitrary and imperfect one instead of being here as elsewhere so positive upon contested points. In one place only do we find a due regard for human limitations and that is when he asks, "What is meant by mind?" He replies, "This is impossible to define." Even with this statement, however, we are not satisfied as he certainly must know that as definitions usually go we can define mind. We cannot tell what it is, but we can tell what it does. Our ability to define matter, life, and force are subject to precisely the same kinds of limitations as our ability to define mind. We do not therefore tell students that all attempts at definitions are useless.

American Pocket Medical Dictionary.

Edited by W. A. Newman Dorland, A.M., M.D., assistant obstetrician to the Hospital of the University of Pennsylvania. Containing the Pronunciation and Definition of over 26,000 of the Terms Used in Medicine and the Kindred Sciences, along with over 60 Extensive Tables. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price \$1.25 net.

This is one of the handiest little dictionaries for the pocket we have yet seen. Its definitions are short, concise, and complete, so that it contains within a small space as many words, satisfactorily defined, as are found in some of the much larger volumes. To a doctor who is a constant reader of medical journals and who wishes to understand what he reads this little book would seem to be almost a necessity. To take down from the shelf the large medical dictionaries upon all such occasions becomes troublesome and occasionally wearying. Here only a few ounces weight has to be handled while in them as many pounds must be transported. To the country doctor who reads his medical journal while traveling the large dictionary is almost or quite useless and this is just what he needs.

Dr. Therne. By H. Rider Haggard, author of "She," "Allen Quatermain," etc. New York: Longmans, Green & Co.; London and Bombay. 1898.

This exceedingly well-written and interesting novel is designed by the author as a sort of rebuke to the legislative bodies of Great Britain for the passing of a law permitting "Conscientious Objectors" to refuse vaccination for themselves and families. He shows something of the nature of the influences that led to the passage of the act and points out the great danger to human life that the future is sure to bring from it. Now that the antivaccinators have begun their insane propaganda in this country it would

be an excellent idea for every doctor wherever the A.-V.'s appear to have a copy of this story on hand and lend it around among their patients. Every public library should be persuaded to secure a copy and a special effort should be made to see that those who attend antivaccination lectures be persuaded to read it.

Compend of Obstetrics, especially adapted to the use of Medical Students and Physicians. By Henry G. Landis, A.M., M.D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and edited by William H. Wells, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic. Sixth Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Associate in Skin-diseases, Philadelphia Polyclinic. With 99 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1898.

Quiz-compends if properly used are a great benefit to a student. The only danger attached to them, and that is a serious one, is the temptation they hold out to young men to cram just before examinations. If they are only used as aids to recollection and as guides to the class of material that it is important to give most time and attention to, no fault can be found with them. A careful examination of these two quiz-compends shows that their contents are excellent, their arrangement first-class and as rapid-reference books they are unexcelled. The illustrations are all good. The system of questions and answers adopted by Dr. Landis in the one on obstetrics seems to us to be very valuable.

The Phonendoscope and Its Practical Application. By Aurelio Bianchi, M.D., of Parma, Professor of Clinical Medicine and Pathology. With 37 Illustrations and Translations of Special Articles by Felix Regnault, M.D., of France, and M. Anastasiades, M.D., of Greece. Translated by A. George Baker, A.M., M.D., Physician in Chief of the Chinese Medical Dispensary, Philadelphia, Pa. George P. Pilling & Son. 1898.

This book will prove of value to those physicians who have adopted the phonendoscope as a partial or complete substitute for the stethoscope. It is well illustrated and it contains just such information as they require. The publishers do not wish this volume to be mistaken for the complete book on phonendoscopy by Prof. Bianchi, which is now in course of preparation.

Practical Urinalysis and Urinary Diagnosis.

A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M.D., LL.D., Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kidneys." Fourth, Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. In one Crown Octavo Volume, 365 pages, bound in Extra Cloth, \$2.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia; 117 West Forty-second street, New York city; 9 Lakeside Building, 218-220 S. Clark street, Chicago, Ill.

This is one of the best works upon the subject of urinalysis in the language and the fact that in three years as many editions have been exhausted shows that its worth is appreciated by the profession. At every stage of the growth of medi-

cal science it is becoming more and more apparent to all that it is utterly impossible for any one man to master in detail everything that should be known to make one competent in every department. The author of a book like this well knows how impossible it would be for every practitioner to acquire the dexterity and gain the knowledge in this subject that all feel the need of. Only those who make a specialty of the subject can reach the point where they will be masters of urinary diagnosis. In spite of this fact it is equally certain that it is a duty all owe to their patients to master as much as they possibly can without slighting other equally important or more important subjects bearing in the same direction. The medical man, therefore, who really has the interests of his patients at heart will never neglect to have a book of this kind in his library and he will use it as often as possible as a guide when he is seeking to know what ails them and how to treat them.

CORRESPONDENCE

THE QUANTITY OF SODIUM CHLORIDE IN BLOOD

To the Editor A. M.-S. BULLETIN:

Will you kindly through your columns in order to settle a disputed question, inform your subscribers the quantity of sodium chloride in each fluid ounce of blood. Yeo in his physiology states that the serum of the blood contains 5 per cent. of sodium chloride. Draper says that 1000 parts of blood contains 3.60, and Flint gives the proportion as 3.50. One authority that I have consulted says the blood contains nine-tenths of 1 per cent. of sodium chloride. Several other medical works seem to give unsatisfactory and conflicting statements regarding the exact analysis of human blood.

Will you also inform me the exact proportion of sodium chloride in normal saline solution?

Very sincerely,

T. GRISWOLD COMSTOCK, Ph.D., M.D.,
3401 Washington Ave., St. Louis.

December 2, 1898.

[The exact amount of sodium chloride in blood is not known. It is no doubt on this account that neither Gamgee nor Foster (Lea) gives any data on the matter. All analyses giving the amounts are results from the ash and not directly from the blood. It is evident that the drying and incineration must alter the place of the chlorine. The actual amount present must vary within limits according to the amount ingested. In the analysis of C. Schmidt, as given in Reichert's Foster, the amount is placed at 5.546, in Flint (1896) it is given as 3 to 4, in Dalton it is said to be 4.5, and in Haliburton as 2.7 per 1000. Howell like Gamgee and Foster is silent on the matter.

The exact proportion of sodium chloride in normal saline solution will be that of its molecular weight in grams in one liter of solution. The weight of a molecule of sodium chloride is 58.37. There are, therefore, 58.37 grams in one liter.—Ed.]

The so-called normal salt-solution of the surgeon is 6 gme. to a liter of water. This makes it a trifle above a true decinormal solution.

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EDITOR'S NOTES

Elsewhere in this issue of the BULLETIN we publish a paper by Dr. Salmon, of the Bureau of Animal Industry at Washington. This paper was prepared by the doctor to be read at the annual meeting of the American Humane Society. The chairman of the Executive Committee of that society wrote to the Secretary of Agriculture for Dr. Salmon's address so that they might get a paper from him and said: "If you can assist us in the matter you will greatly aid in a good work and put the society under lasting obligations to you." Dr. Salmon went to the trouble of preparing the paper, the programme of the meeting had gone to press, a Humane (?) citizen of Washington discovered the doctor's name on the programme, the press was stopped immediately, a vigorous letter was written to the Secretary which declared that if Dr. Salmon's name remained on the programme all the Humane (?) people in Washington would lose interest in the meeting, and finally the American Humane (?) Society stamped its seal of approval on the brutal demand. His name was removed, and his paper rejected merely because the intolerant bigots thought that no good thing could come out of Nazareth. Such deeds are enough to make one blush for our boasted civilization in that they show how near some are to savages. Strange, too, the inconsistency that makes the meanest, most cruel, and most bigoted among us hypocritically label them-

selves "Humane." It is just such creatures that enjoy reading the horrible and exaggerated tales they publish of the work of the physiologists. They gloat over such heart-rending pictures of suffering which they buy and distribute with the same gusto as young savages who devour reams of yellow novels full of gore.

We learn from the *Medical Record* that the trustees of the Cincinnati City Hospital have adopted a rule that the physicians in the hospital shall not be permitted to prescribe any remedies not included in the United States Pharmacopœia. If this is correct then some one should do some missionary work among these trustees and show to them that they are seeking absolutely to stop medical progress for all time to come. Whatever may be their object in adopting such a rule there can be no question of its folly nor of the awful consequences that would result should their example be imitated throughout the country. The United States Pharmacopœia never adopts a new remedy until it is approved by medical men. It is only an index of the old and established and waits for the reports of the profession before making a place for the new. If the hospitals refuse to test the new, and medical men at large imitate them, when will we ever have anything new? Serums are unknown to the Pharmacopœia. Glandular extracts are unknown to the Pharmacopœia. Ichthyol is unknown to the Pharmacopœia. Many useful plant-extracts are unknown to the Pharmacopœia. Iodothyrene is unknown to the Pharmacopœia. But why enumerate the many good things that coming Pharmacopœias are sure to contain, but which the trustees of the Cincinnati Hospital refuse to help into their true places. Such conservatism is truly deplorable and we trust that our informant is mistaken.

We hope the time is not far distant when hospitals and dispensaries instead of becoming conservative holders back of progress will become its chief promoters. We wish to see them adopt the plan of making every so-called charity patient that enters their doors material for experimental research in therapeutics and surgery. Make the prime object of these places the settlement of disputed points in treatment. Distinctly give every patient to understand that he is being experimented upon, and that the benefit he receives is his as compensation for the use of his body. Let the trustees of these institutions see that no ignorant groping in unknown treatment that is likely to do harm is permitted. Let the treatment be only such as the patient would stand a chance of receiv-

ing for pay outside the institution, but let it be given with the sole object of testing its efficacy. When we can have different lines of treatment tested and compared scientifically upon the hundreds of thousands of free patients that go to hospitals and dispensaries and when we can have promising new remedies tried in the same manner, then we shall begin to possess a genuine science of therapeutics. It is a shame that there is no concerted action to-day among these institutions for the purpose of learning whose methods of treatment are the best, or what new remedies are most efficient. We allow petty jealousies and dog-in-the-manger policies to control us to our injury. We fear some one else may be benefited by what we do, when if we would all pull together toward a common goal all would benefit much more than any one does by present methods.

Osteopathy is invading Pennsylvania in full force. Its disciples are seeking to establish one or more schools of their creed in that state. Why cannot the medical society of the state, aided by the medical societies of the various counties and cities, unite their forces and drive it out. Let them take a lesson from Kentucky. At present it is the boldest of the bold systems of pretended science, and its "cute" way of working itself into prominence by the aid of politicians makes it peculiarly dangerous to the public. Its silly pretense of novelty and its wild claims of efficiency would kill it quickly if the public could only be taught that every system of quackery thrives on precisely the same claims. By adding to its numbers men who have been failures in honest medical practice it fools the masses into thinking that it may possess some unrecognized merit. The most dangerous quacks are the ones who know enough to know that they are quacks, and who wilfully and maliciously beguile the public. Such men are brazen and defiant pariahs. They should be made to feel the force of the scorn of all honest men. Whoever seeks to expose them and their ways should receive the full and hearty support of the entire profession, and if need be even financial aid to do them battle. Our Boards of Registry should be assisted in efforts at withholding recognition from their pretenses, and whenever they go to law with such boards, with individual members of the profession, or with medical publishers who seek publicly to expose them, all medical men should do everything possible to assist in so worthy a task. Whenever, by any miscarriage of justice, they happen to gain a victory it gives them prestige and helps them along. They are just smart enough

to know that legal squabbles will help advertise them, and if they happen to win, enable them to pose as abused mortals. They are, therefore, likely to court lawsuits on every pretext. Let our best men, therefore, rally to their defeat and in defense of the right. When they seek for special legislation no stone should be left unturned in the effort to defeat them. We owe this effort as a duty and as guardians of the innocent, suffering sick who are powerless to help themselves against the deception such creatures practise.

PUBLISHERS' DEPARTMENT

MEDICINAL AUTOSPRAYS

Fries Bros., manufacturing chemists, 92 Reade street, New York, have reduced the price of their medicinal autosprays to 50 cents.

These autosprays afford a most convenient and cleanly method of applying medicaments and antiseptics in a fine state of division.

A list of the various autosprays will be sent by the manufacturers on request.

PERFECT ISOLATION

"For years past I have maintained most perfect isolation, as I consider it, in all contagious diseases by hanging sheets over the sick-room doorway and keeping them constantly wet with 'Platt's Chlorides.' The preparation is the most effective germicide and deodorizer of moderate cost, and has done much to make the sick-room sweet and healthful in my practice."

J. M. RAUB, M.D.,

Formerly Member of Board of Health.

Brooklyn, N. Y., December 5, 1898.

MODERN VACCINE PLANT

"The spirit of improvement has seized upon vaccine material and vaccination, and the result is glycerinated vaccine lymph, more successful vaccinations and much less suffering to the child. This new form is vaccine virus purified and preserved by means of glycerin and is now prepared in this country in the special vaccine laboratory of H. K. Mulford Company, recently erected on their biologic farm at Glendolen, Delaware county, Pa. The laboratory is entirely distinct from the general laboratory and is situated between two separate stables, to which it is connected by verandas. This enables the employment of one while the other is being disinfected. The entire plant combines all the best features of all the most modern and improved vaccine establishments of Europe and is easily the best equipped in the world. We believe the reputation of their Concentrated Antitoxin will not fail to commend the new improved product to the medical profession."—*Exchange*.

The Hartford, Conn., Medical Society has adopted a by-law to prevent all members of the society from entering into contracts with organizations to render medical services to members for a specified charge. The matter was brought before the society at a recent meeting and fully discussed.

NEWS

Cleveland, Ohio, has been alarmed by the spread of smallpox in and near that city. There was talk of burning houses to get rid of the contagion, the books of the school-children were destroyed, the rooms fumigated, and two public schools closed. The Board of Health thinks it is now under full control and that there will be no new cases.

The Humane Society of Ohio is after the Cincinnati City Hospital because some member of its staff lately inoculated some rabbits for the purpose of ascertaining whether a patient that died in that institution had rabies or tetanus. The society does not want the doctors to know what disease the patient had for fear of being able to protect other human beings from it. Better perish a thousand of the citizens of Cincinnati than that one or two poor rabbits should suffer.

The Oakland, California, *Tribune* says that the scare about the bubonic plague being prevalent in Chinatown across the bay, although disproved, calls attention to the necessity for a thorough overhauling of that part of the city. The Mongolians have imported their unsanitary habits, and some of the dens in which they live defy almost every law of nature. A sewage system is about the last thing they think of, and although the health authorities from time to time compel them to take some care of themselves, they soon relapse into their natural state. It would not be surprising if the plague did break out there, in view of all the conditions surrounding them.

Dr. Means, of Philadelphia, suggested not long ago that the school-children of the City of Brotherly Love be all treated to injections of antitoxin so as to protect them against diphtheria and to prevent its spread. Many of the parents of the children are said to have protested against any such treatment and the Homeopathic County Medical Society after a lively discussion of the subject passed the following resolution:

Resolved, That in view of the uncertainty of the evidence as to the permanent value of the procedure, the Homeopathic Medical Society of the County of Philadelphia does not approve of the proposition that there should be a law or ordinance passed at this time providing for the compulsory administration of antitoxin to the pupils of the public schools as a prophylactic against diphtheria.

Application was made to Court No. 4, of Philadelphia, Pa., for a charter for the "Philadelphia College and Infirmary of Osteopathy." The purpose of the proposed corporation is said by the proposers to be "to establish a college for the teaching of osteopathy, the object and design of which is to improve our present system of surgery, obstetrics, and treatment of diseases generally and place the same on a more rational and scientific basis, with the privilege of granting and conferring such honors and degrees as are usually granted and conferred by reputable medical colleges; to issue diplomas to all students graduating from the college, and also to establish an infirmary for the cure of patients according to the principles of osteopathy." The capital stock of the corporation is fixed at \$25,000, divided into fifty shares of \$500 each.

Dr. Bryce, the Ontario Provincial Medical Officer, has just issued an interesting tabulated

statement, compiled from the Toronto health-returns of the five years from 1893 to 1897, inclusive, showing the deaths in that city from consumption alone. There were 1,553 deaths from tuberculosis in that period, but the most significant point established is that the mortality is greatest among the poor, those who cannot pay for proper treatment or get away from their fate. The class of artisans, embracing thirty-three trades, furnished 28.8 per cent. of the deaths; laborers, 14.7; and clerks and travelers, 12.4 per cent., a total of 56 per cent. of the whole. Of the remaining 44 per cent. the class of housewives contributed 22.1 per cent. These were, of course, women of the poorer class obliged to work indoors and bring up families.

Dr. W. T. Gott, vice-president of the Indiana State Board of Medical Registration and Examination, in a late statement to the *Crawfordsville Journal* concerning the osteopaths says: "I wish the people were better informed on this question of the crusade against the osteopaths by the State Board of Health. There isn't any crusade at all. There are many of the osteopaths who hold license we granted. What we insist on, however, is that all who practise the healing art as a profession shall be suitably prepared for such work. They must take a course in medicine at some recognized school. Then they can practise osteopathy if so minded and the Board of Health will certainly never object. But it is dangerous and ridiculous for a man who is ignorant of the human body and the science of medicine and surgery to start out and attempt to cure every case of sickness that confidently comes to him. Yet many osteopaths have tackled cases of which they knew nothing and have caused no end of trouble. It is not the osteopaths we are after; it is the ignorant practitioner."

Dr. W. B. Atkinson, of the Pennsylvania State Board of Health, is reported as having said that over 200 cases of smallpox existed on December 8 at Bedford, Pa., a small town of only 2,800 inhabitants. He claimed to have personally seen over 130 cases. The physicians of the place pronounced it chickenpox or some harmless skin-disease, not one of them ever having seen a case of smallpox. The whole town was reported as closely quarantined and every effort is being made to subdue the epidemic. The school-board has ordered compulsory vaccination of the school-children. At a town-meeting in which the leading citizens took part a committee was appointed to consider the situation and the following statement was drawn up for publication: "The people of this town have been greatly startled by the unfounded reports concerning the prevalence here of smallpox. No greater wrong to any community can be imagined than that perpetrated in this instance, and deep indignation prevails among the people who collected in an informal meeting this afternoon and severely denounced the statements purporting to come from Dr. Atkinson. There are two cases in this town and seven outside, five families in all being affected and these are entirely under care and control. Dr. Atkinson did not see more than the five families stated, and to say that 130 patients were under his eyes is entirely false. There is not the least alarm or apprehension felt among the people, and they are simply dazed at the publicity given to these falsehoods. That some cases of a peculiar skin affection have existed in different parts of the county may be admitted, but they are not smallpox, and the town has not been guarded or quarantined as published."

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